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Buying a secondhand Mac is for mugs, now that Apple is fighting it out with PC makers by offering top features for bargain prices.

Simon Jary
editor-in-chief

Shock of the new

I suffer from betaeggizophobia – a rampant fear of second-hand goods. I've never been one for other people's old stuff, although I do have 52 positive points (and one undeserved negative) on eBay. I'm not counting quality retro goods – I'll leave "new antiques" to Lovejoy. Old CDs are fine, as they're quickly imported into iTunes, and old well-thumbed books can be thrown out as soon as I've read them. I've just moved into a new house – purchased from a Macworld subscriber it turns out, so I can't lie about how I replaced everything electrical with brand-new gear from John Lewis – and therefore I do now have a quantity of what I like to call "non-new goods", which will be replaced when I've started breathing again after paying the stamp-duty bill.

But I'd never buy a second-hand TV or telephone, and I certainly wouldn't consider buying someone else's old computer to upgrade mine unless it was less than six months old. Anything more ancient than that is almost certainly past-it when it comes to embracing new technologies. I certainly don't mean that your still-shiny two-year-old computer is a heap of polycarbonate, aluminium and silicon junk – unless it's got Intel Inside. If it's a Mac, it's more than likely a fully functioning machine that can handle most of the tasks you challenge it to complete. Keep using it, by all means – and don't start looking at it as if it's about to start smoking when you ask it to save a Word file. Many don't need blistering speed to tackle 80 per cent of their daily needs: email, Web browsing, general office tasks, light photo editing and iChatting.

I'm merely stating that I wouldn't buy it from you in order to subsidize your more than sensible decision to upgrade to a newer model. Unless someone is offering you a deal at a price so ridiculously temptingly low that they've either just won the lottery, temporarily lost leave of their senses, or simply pinched it off the back of a lorry, shake your head and start saving for a new computer instead.

There are many positives to buying new: components are their own lifetime away from wearing out; processors are as fast as they can make them in large enough volumes to be profitable; video cards can actually play the latest whiz-bang games; hard disks will be larger than those in the top-end iPod; the operating system is up-to-date and might not need a paid-for update for up to 18 months; the iLife apps come along for free; and you can use the box to line the rabbit hutch.

Second-hand is cheaper, but you get no warranty and each component is that little bit closer to obsolescence than when first purchased. And over the long-term that initial cost saving could be eaten up in repairs and upgrades.

For real value for money, now is a fantastic time to buy new. This is why I'm inviting you into my world of betaeggizophobia. Most Macworld readers have migrated to the safer, more modern environment of Mac OS X – but a few still boot up into a Platinum appearance every morning. Some masochists even use OS X at work but OS 9 at home – or vice versa if their boss is a scrooge. How they can go back to OS 9 after OS X is beyond me. It must be like using video-tape after Sky+, Sony Walkman after iPod, or QuarkXPress after InDesign.

Apple's latest price cuts have removed any excuse you might have for sticking to that beige, Bondi-Blue or Strawberry Mac. The unsung eMac range now includes what is Apple's least-expensive Macintosh ever. You can pick one up for a measly £549 including VAT. Even the Mac clones didn't bring prices this low. In fact, the cheapest-ever clone was the Apus 160 from scanner manufacturer Umax, which cost £699 – the same as Apple's previous cheapest, one of the CD-ROM-only Indigo G3 iMacs.

The eMac is the forgotten Mac, and yet it answers so many of our prayers. TV shows love to stick neck-flexing LCD iMacs or giant Cinema Display screens on the desks of their stars. I don't remember there ever being an Apple TV or print ad for the eMac, and the general feeling is that it's the G3 iMac's big ugly brother. In fact, it's a belter – offering high-end G4 performance, large screen estate, and actually occupying less desk-space than the smaller G3 iMac.

£549 is an amazing price – and, as we point out on page 22, this drops to a paltry £365 for educational establishments. The new eMac exposes the lie that Apple doesn't compete on price with Windows PC manufacturers. Dell's Dimension 2400 costs from £529. The Compaq 5210 is available for £499. The eMac costs a few pounds more, but look what you get for those extra few quid: an all-in-one design that's far smarter, neater and more intuitive than the PC towers' miles of odd cables; Mac OS X Panther, an operating system leagues ahead of Windows XP; bang-up-to-date technologies such as 54Kbps AirPort Extreme; and all the iLife applications for free – iMovie, iPhoto, iDVD, iTunes, and the sensational Garageband. With the money you save, you could sign up for Apple's .Mac services to pick up virus-protection and backup software with all the other online benefits.

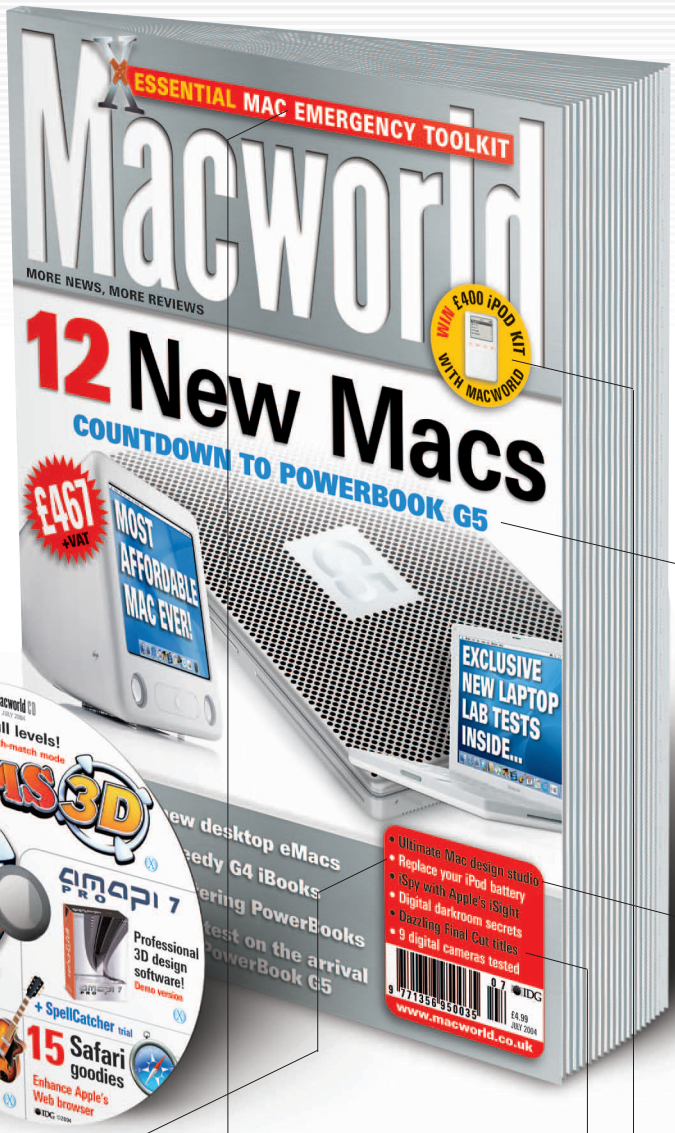
Grander Mac owners even have to look up to the £699 SuperDrive eMac model, which boasts a world-first 8-speed DVD-R drive that's twice as speedy as that in the G5. I'm not suggesting that G5 Power Mac owners swap their tower for an eMac, but I do implore anyone sticking with an older, under-powered, OS 9 time-machine or considering buying a second-hand OS X Mac to put their hand in their pocket today to grab one of these unsung Mac heroes before Apple cottons on to the fact that it's finally shipped a Mac that can duke it out with Windows PCs on a level playing ground of performance and price, while offering far-superior features. Rush down to PC World now, and drag a PC user with you. **MW**

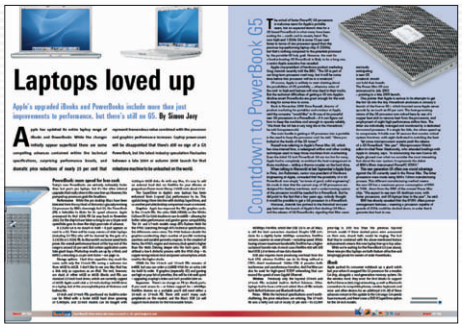
Apple's latest price cuts have removed any excuse you might have for sticking to that beige, Bondi-Blue or Strawberry Mac. The unsung eMac range now includes what is Apple's least-expensive Macintosh ever.

JULY 2004 Contents

COVER STORIES

11
CD 1
TOP DEMOS:
Worms 3D: two full levels to play;
GarageBand tutorial and 100 loops;
Safari enhancers;
SpellCatcher; cool icons, and much more...

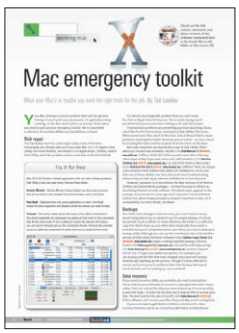




70 **New laptops: exclusive tests**
Apple's updated iBooks and PowerBooks tested assessed and rated.

70 **Designs on life**
We look at the essential hardware and software needed by every serious designer.

87 **iPod tricks**
Everything from smart playlists to battery rescue



92 **Mac rescue**
Tools and utilities to help keep Mac OS X healthy

102 **Digital Video**
Using LiveType in Apple's Final Cut Pro.

112 **Competition**
Win a fabulous iPod bundle.

page 6

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NEWS

18 **iTunes 4.5 announced** Apple ramps-up laptops **MS dominance 'will end'** Apple wows NAB show with new releases **HD FireWire 'revolution'** Apple's first sub-£500 Mac **Shake 3.5** After Effects 6.5 **Avid Xpress Pro format boost** London Apple store **FileMaker Server 7** Mac viruses **Splinter Cell** Tron 2.0 **Business News**

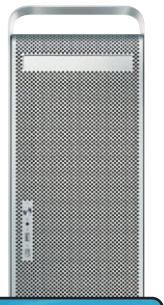
PRODUCT NEWS

37 **Epson PictureMate** Sanyo VPC-J4 EX, **Canon compact photo printers** High-speed media-reader **Native Instruments** Red Giant Magic Bullet **PowerFX Apple Loops** **Disc Jams** Photo Galaxy 2300 **Kyocera printers** Parasolid 16.0 **Kahootz** New books **Alamy stock imagesNetXposure Hexafoo** FmPro Migrator 1.86 **Photolibrary Botanica images**

SEMINAR

226 **Mac Help**
Top hints and tips, and readers' questions answered.

BUYER'S GUIDE



234 Macworld's advice for readers buying a Power Mac, iMac, iBook, eMac or PowerBook G4. A full listing of our acclaimed hardware product reviews and group tests for the previous 12 months, with features index and detailed buying advice.

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May 7
Paul Hooper speaks to jazz legend Jamie Cullum about music, muses and his Macs.

May 14
George Malim investigates the evolution of Apple and the iPod in the mobile market.

May 21
Alistair Dabbs on the trials of transparency flattening in Adobe Creative Suite.

May 28
Nick Spence talks with illustrator Richard May, co-founder of design portal pixelsurgeon.com. May discusses Apple, and freelancing perils.

June 4
Sound on Sound editor-in-chief Paul White on how to optimize Mac OS X 10.3 for audio, and how to use software instruments to their full potential.

JULY 2004 Contents

FEATURES

68 Mac Gems
Top shareware to enhance your Mac.

97 Digital photos
Add flair to your digital images.

110 iSight security
How to use iSight as a surveillance camera.

113 Top XTensions
Using XTensions to enhance QuarkXPress 6.0.

EVERY ISSUE

8 Letters
Games price moan; Bluetooth joy; VAT grumble.

80 Subscriptions
Get 13 issues of Macworld for the price of 9, plus a free book!

238 Services directory
Our definitive guide to finding the right supplier.

246 UK Apple Reseller Guide
UK Apple dealers listed.

OPINIONS

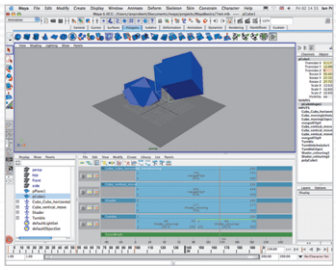
3 Simon Jary
The new eMac is Apple's cheapest-ever machine.

47 David Fanning
The journey from Mac fan to official Mac Man.

49 Michael Prochak
You're bard! Why isn't there an Apple iPoem service?

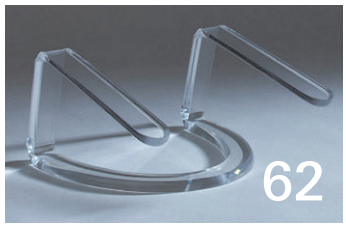
250 Andy Ihnatko
Apple updates keep all of us on our toes.

REVIEWS



50 Alias Maya 6.0 Complete Preview
52 Digital camera round-up: 8 digital cameras
54 Aestiva HTML/OS version 3
56 Filter Quad Rhythmic Multimode Filters
56 Antares Tube
57 Sony DSC-T1
57 Apple iTunes 4.5
58 StorePac SP40

58 G5 Jam G5J-0
59 La Cie Bigger Disk
59 Roxio Toast with Jam 6
60 GIMP 2.0
60 Box Clever GBox
62 Laptop stands round-up



63 X-Modem CE
64 Font Doctor 6
64 Cricket 9.1
65 The Lord of the Rings: The Return of the King

POWER MAC G5 MASSIVE SPEED TWEAK
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ULTIMATE MAC STUDIO
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Your letters win top software each month

Tell us what you think, and you could win a great prize. This month, we reward readers' letters with a copy of Indiana Jones and the Emperor's Tomb – courtesy of Softline distribution. Email letters@macworld.co.uk. Please provide full name and contact details, or write to: Letters, Macworld, 99 Gray's Inn Road, London WC1X 8TY.

(Letters received without a name and address will not receive a prize.)

⌘ The price isn't right

I read with interest your feature on game piracy (March 2004), and while it received a sympathetic ear I feel it failed to address certain issues. The most common complaint I hear concerns the price and delayed arrival of ported games. A prime example of this was Unreal Tournament 2003 – it arrived almost a year after the PC version, and the price was almost double. Add to that the patches required and the fact it didn't take advantage of dual processors, and you face a convincing argument for disgruntled customers.

And then there's the PC piracy market, which seems to me to be a far larger issue – there's a multitude of sites offering warez for PC. Perhaps the Mac games market should look at how the CD market is changing – overpriced CDs from the likes of Tower Records has been in stark contrast to the fortunes of CD Wow!, Amazon and Tesco, which offer sub-£10 chart albums in a bid to get greater sales. If developers provided cross-platform release, then I'm sure it would provide the necessary incentives to buy the game of today

Peter Lacey

⌘ Bluetooth's text appeal

I'm a Mac convert and acquired my first in the form of the beautiful 17-inch PowerBook less than a year ago. Apple hardware design is second to none, and it seems it can do no wrong with Mac OS X either.

Bluetooth implementation in Panther is one such wonder. It's simple but elegant, and very easy to use: Ctrl-click a contact with a mobile number, and a menu pops up allowing you to, among other things, send an SMS or dial that number with the connected phone. So, you can prepare a SMS message on your computer (no more tiny buttons to fiddle with), click send and off it goes. If you receive a call, a message box simply pops up on your desktop. If you miss the call you can log it, and next time you click on the contact name there will be a little note with the exact time and date this person called. It's very useful when you're at your desk and have your mobile tucked away.

Minh Nguyen

⌘ VAT chance for Apple

Are the iPhoto books really books? And are they charging VAT? But books are zero-rated... strange.

Stephen Schwarz

⌘ Who got there first, Bill?

Recent adverts for Microsoft's Tablet PC together with those tablet computers from HP made me almost melancholic. What gets me most is the one with the guy sitting at a hotel launch – you only see his feet, scribbling his idea for an even more expensive hotel complex on one of these laptop-cum-notepad things. Not only did Apple have all its ingredients, but it had it on the market.

Remember Newton? I often did exactly what that guy in the advert was doing on mine. Adding colour would be a doddle. Much as I admire Steve Jobs, I bet he's kicking himself for not having seen that potential!

Jens Meyer

⌘ All wind, no sales

I write as a dedicated Mac user who still gets the usual grief from PC users and who is increasingly frustrated by Apple's lack of quality advertising. Yes, the rare TV ads are stylish and the recent iPod poster looked great, but what affect has this had on sales?

As a user I know how great the machines look and how we have a quality OS, but Joe Public doesn't. All my friends still think Macs are for 'creative types' and are too expensive. This is because of Apple's advertising – it shows stylish products but nothing about what they actually do and why they are better than Wintel PCs.

We only have to look at Apple's best-value product – the eMac: Joe Public has no idea about it because it gets no promotion. The eMac could be another 'saviour' product for Apple – but only with the right promotional work. The company is wasting money on overstylized advertising and not promoting the machines themselves.

Richard Hennell

⌘ The sound of music

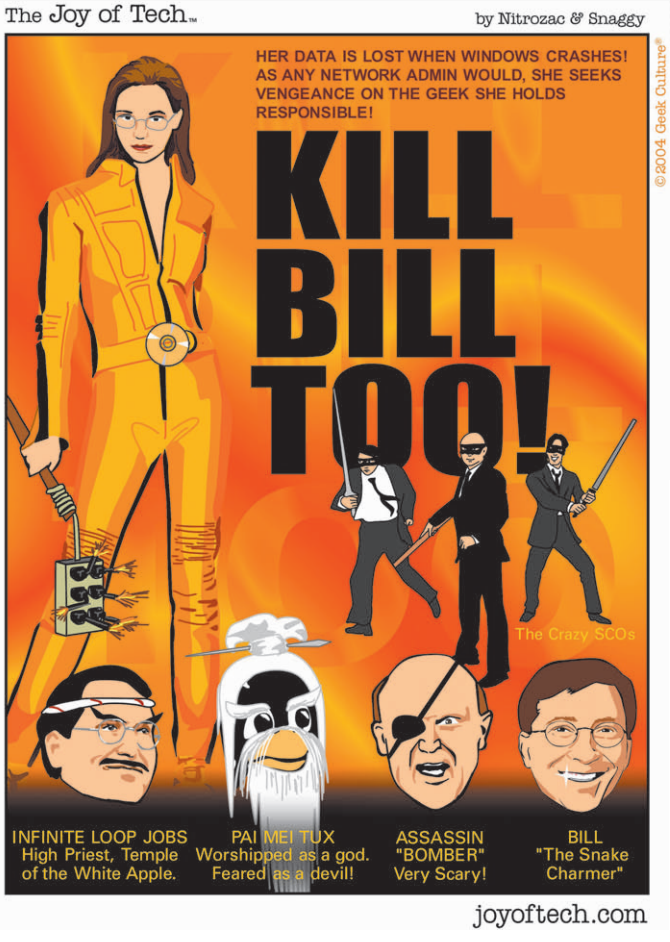
In your feature on the Ultimate Mac Studio I could not see any mention of the excellent DSP-Quattro audio-editing package (**www.dsp-quattro.com**) which at the time I bought it cost only €90 (around £60).

The latest version (1.5) has a fully programmable playlist from which you can burn a red-book CD with no other help than that already existing in Mac OS X. It also supports VST and Audio Unit plug-ins and all compliant sound cards.

You also forgot to mention the Edirol UA-1D – a £65 digital, SPDIF and Coaxial, USB digital audio interface or the Edirol UA-1A analogue USB audio interface. Both would be fine in either a low-end or mid-range audio setup, and ideal for mobile setups.

I have been using DSP-Quattro for a few months now and think for the money it is an absolute winner and can only get better.

Philip Tyler MW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by Nitrozac & Snaggy
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KILL BILL TOO!
The Crazy SCOs
INFINITE LOOP JOBS High Priest, Temple of the White Apple.
PAI MEI TUX Worshipped as a god. Feared as a devil!
ASSASSIN "BOMBER" Very Scary!
BILL "The Snake Charmer"
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Macworld.co.uk Join in the live IT debates on Macworld Online Forum (**www.macworld.co.uk/forums**).

Try the latest demo of Amapi 7 Pro, enjoy our add-ons for Safari and GarageBand, and then have a blast with Worms 3D – literally! Lots of shareware/utilities to work your way through, as Vic "Bazooka" Lennard explains...

MAIN ITEMS

Worms 3D playable demo

They're back – but in three dimensions! Help your worms pick off the opposing teams using crazy weapons, tools and whatever foul strategies they can conjure up. Survive the mayhem and you win!

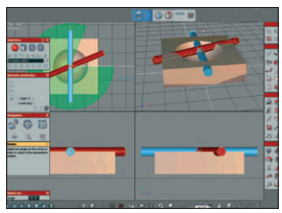
Worms 3D has a dark sense of humour that includes exploding sheep, exploding moles, and old ladies with a death-wish!

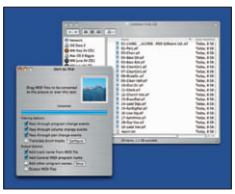
This demo contains **two full levels** from the game with restricted weapon set and two player death-match.

Requires Mac OS X 10.2 or higher, a 600MHz G3 or better, and a 3D graphics card with at least 32MB VRAM.

Amapi 7 Pro demo

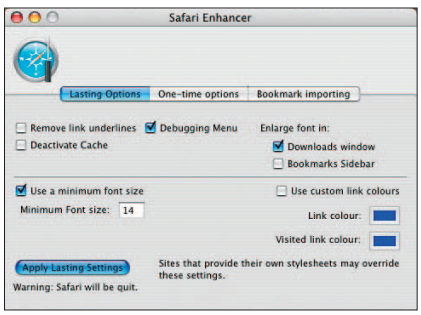
The advanced modelling in Amapi 7 Pro, including NURBS and polyhedral complex surfaces, generalized extrusions and subdivision modelling, chamfering, thickness and object intersections, makes it a powerful modeller that can create intricate models and scenes. With its creative approach and interface, Amapi 7 Pro is unmatched in its short learning curve and flexibility. Go to **www.eovia.com/europe/macworld_uk** to get your softkey. You'll also find a set of useful tutorials there.





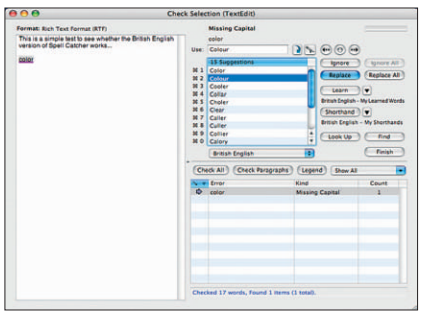
GarageBand Xtra

Here you'll find Chris Breen's 11-minute QuickTime movie tutorial, over 100 loops courtesy of Drums On Demand, freeloops.co.uk and Access Music, and five useful utilities. These include Dent du Midi (pictured above), which splits single track MIDI files into multiple tracks, BandToLogic for converting GarageBand songs to Logic files, and GRBandAssistant for enhanced functionality.



15 Safari goodies

Fifteen enhancers for Mac OS X's favourite Web browser. These include: Safari Extender, which adds functionality to Safari in the form of a contextual menu item; Safari Enhancer (pictured above) with over 10 additional features, including the ability to change the search engine; and Safari Menu, which lets you view all your bookmarks system-wide.



Spell Catcher UK trial

Spell Catcher X offers instant thesaurus and dictionary definition look-up and global support in virtually every Mac OS X application. Use it in check-as-you-type or after-you've-typed modes. Also included is a British English dictionary.

Requires Mac OS X 10.2 or higher. Try it, with limitations, for 14 days.

page 12

Cover CD

JULY 2004

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INSTALL

Before you start working your way through the software on our CD, go to the System Utilities folder and make sure you install the following:

Adobe Reader 6 (OS X only)
Install this to be able to read many programs' on-screen manuals.

StuffIt Standard
The installer for StuffIt Standard 8.02 (Mac OS X only) is included.

QuickTime 6
Some programs require QuickTime 6. This can be downloaded from www.apple.com/quicktime/download.

INSIDE MACWORLD & SERIOUS SOFTWARE

MediaRECOVER 2

Recovers lost photos, audio and video from removable media used in digital cameras, PDAs, cellular phones, etc. Supports all common media types. Demo.

PDF Enhancer 2.5

Take a single PDF and repurpose it for a specific use such as print or Web. Includes image optimization. Demo.

Photoshop Import XT 5

Directly import native Photoshop images with clipping paths and alpha channels into QuarkXPress 6, even when images contain more than one layer. Demo

Xenophaquinox

Unusual and intriguing puzzle-type game from GoldfishSoft – simple to play but deceptively difficult. Shareware.

Demos/trials include...

Aestiva, Antares Filter VST
AudioHijack
Badia BigPicture 2.0
BKMS Sample Plugin
Carbon Copy Cloner
Cocktail, Cuisine Deluxe 4
Data Backup 2.0.1
Data Recycler X 1.2
DR X, FontDoctor, iSpeak It
iTunes Library Manager 3
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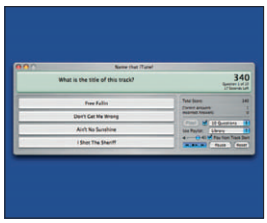
GAMES WORLD

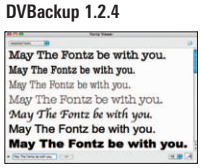


This month's Top 10 Shareware Games includes a number of new games, such as Powerhook Bowling (left) and iTunes-based music quiz Name that iTune! (far left), plus latest versions of many of your favourites.

MAC OS X/9 SHAREWARE & UPDATERS

Seventy-five useful programs, all subdivided into categories, including:
ABFAX 3.3.1
Alias Menu 3.1.1
AntiAPPL 1.0

ATPM 10.04
Audio Extract
Books 2.0.5
Book Lightning 1.3
Buddy Pop 1.1
CharView 3.0.3
ClipboardMenu 1.3.5
Data Keeper 1.05
DragThing 5.1
DVBackup 1.2.4


May The Fontz be with you.
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Fontz X 3.6.1
HTML Optimizer Pro
iCE 1.0.1
IconCompo 3
iLynX 1.1
iTuner 2.2
iTunes Publisher
LaunchItems X
Macabinet
Macbiff 1.1.4
Mail Watch 2.0
MemoBlock OSX 4.1
MenuCalendar 1.7.2
MidiGrasshopper
MoveItems X
MultipleLauncher
PDF Plugin 2.0.1
Scrap Book
Scrap X 1.3.1
Shadow Classic
Sidi 2.2.0
SnapnDrag
SpamSieve 2.1.4
SpamStopper 1.5.0

Tex-Edit Plus 4.6.8

UPDATERS

This month's dedicated updaters folder includes over 25MB of patches to bring many popular applications bang up-to-date, including:
ATI Displays 4.2
LaCie Update Tool 1.1.2
NAV April 2004

CD CATALOGUE

Courtesy of Mark Pirri's superb DiskTracker program, Macworld brings you a searchable catalogue of all our CDs from 1997 to 2004 – over 454,000 files! This will grow month by month to allow you to find any file you want, without wearing out your CD-ROM drive. The latest version of DiskTracker (2.3) is also included – don't forget to register if you find our library useful.

FAULTY COVER CD-ROM?

- If your cover disc is broken and you want a replacement CD, please contact Jaime Parker, on 020 7071 3661, or email at jaimep@macworld.co.uk
- If your cover CD doesn't seem to work as it should, please check you have read all the instructions on the cover disc pages carefully first. If it still doesn't work, then please email cd@macworld.co.uk
- Drag installer files from the CD to your desktop before clicking on them.

DON'T MISS...

Cool Extras
Three new sets of icons from iconfactory.com:
- Eleven Las Vegas icons from Kate England
- Six hiking icons and seven moon-travel ones from Anthony Piraino

Mac ISP
Access offer from Moose Internet Services.

Netscape/Internet Explorer/Opera
Netscape X 7.1, IE X 5.2.3 and Opera 6.0.3

Plus...
... many thanks to Simon Youngjohns (youngjohns@hotmail.com) for our CD icons.

SHAREWARE

Association of Shareware Professionals

Shareware is a distribution method, not a type of software. It makes fitting your needs easier, as you can try before you buy. Shareware has the ultimate money-back guarantee – if you don't use the product, you don't pay for it. If you try a Shareware program and continue using it, you are expected to register. Support shareware authors so that they continue to provide high-quality programs for the Mac.

iTunes 4.5 in the iMix

Euro iTunes Music Store 'this year'

Apple will launch iTunes Music Store in Europe this year, promised CEO Steve Jobs on April 28. "We are working with the music companies there and in other areas," he said, adding, "There is a lot of work left to do."

Music industry insiders expect the service to launch around June-September, but numerous reports warn that byzantine rights negotiations with European music rights holders are hampering these plans. Napster is also affected as both companies struggle to achieve first-mover advantage.

Apple Europe vice president Pascal Cagni told Reuters about the challenges.

He described "massive price differences" within Europe's territories, and cited "tax differences in countries" as hurdles to launch. He also criticized publishing houses that have failed to negotiate digital-music rights with artists.

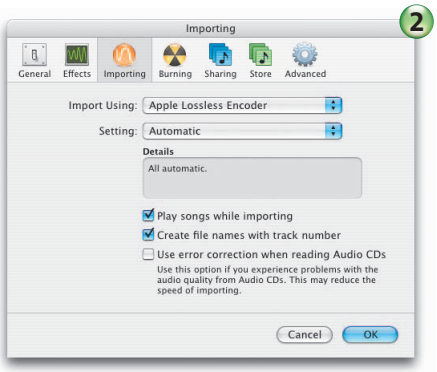
He explained: "When we launch in Europe, we want to do it well. There can be no compromise on the ease of use, the depth of the catalogue or the responsiveness of the Web site. A few months' delay doesn't concern Apple."

Despite no music service, Apple Europe saw sales of iPods increase at almost the same rate as the global average, he said.

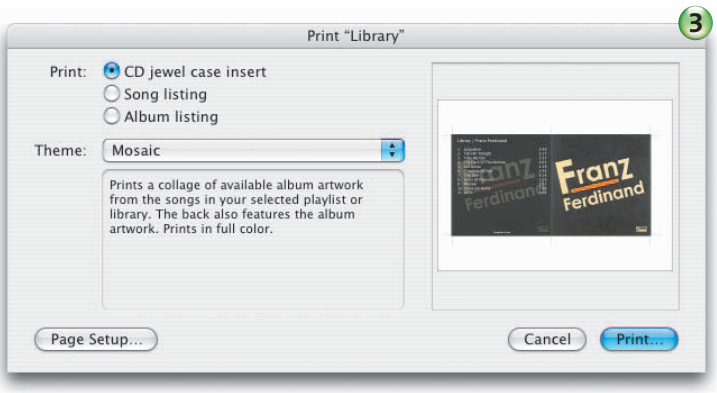
Alternative legal digital-music suppliers exist: Wippit (wippit.com) already offers 150,000 tracks. Tracks cost from 29p many in MP3 format.

For dance-music fans, trackitdown.net offers dance music from more than 50 labels (including Fat Boy Slim's Southern Fried label) in MP3 format at £1.50 per track.

Also launching in June, UK music charity War Child (warchildmusic.com) will offer AAC/MP3s from a growing roster of acts at 99p a tune. 70 per cent of profits go to help kids trapped in war zones. MW



"We have to stay focused on the fact that people buy these devices because they love music."
Apple CEO Steve Jobs


3
Print "Library"
Print: CD jewel case insert
Song listing
Album listing
Theme: Mosaic
Prints a collage of available album artwork from the songs in your selected playlist or library. The back also features the album artwork. Prints in full color.
Franz Ferdinand
Page Setup...
Cancel
Print...

To celebrate the first birthday of its iTunes Music Store Apple released iTunes 4.5 for Mac and Windows, laden with extra features.

Apple has sold 70 million songs through the service, with weekly sales reaching 2.7 million tunes each week – a rate that would equate to 140 million each year.

"We are thrilled at the results we have seen in just one year. It has revolutionized the industry. We are clearly the number-one music service in the world," said Apple CEO Steve Jobs.

Though sales missed Apple's 100 million target (set at the launch of iTunes for Windows in October), Jobs was pleased. "To go from zero to 70 million sales in a year... if we'd predicted that a year ago, people would have laughed."

The essence of Apple's music initiatives is simplicity and focus.

Bring the noise

New software features in iTunes 4.5 include: CD-insert printing from within the application; dynamic playlists (Party Shuffle; 1); the capacity to import unprotected Windows Media Audio files; and the Apple Lossless Encoder.

New Music Store features include iMix, with which music fans share playlists; a music videos page; movie trailers from within iTunes; radio charts from over 1,000 US radio stations; weekly free downloads; and Wish lists.

Apple currently has 700,000 tracks available to buy online (up 500,000 from launch). Jobs said: "We expect to offer over a million songs for sale by the end of the year."

Jobs is hopeful that some of these tracks will come from persuading labels to digitize their back catalogues, much of which isn't available in bricks-&-mortar stores: "This is really, really exciting for us," he said, stressing that online music has no inventory costs.

Jobs denied Apple is under pressure to raise prices, saying: "We think 99 cents is the price consumers want. The price will remain 99 cents per song. Rumours to the contrary are just not true. We see album prices going down, not going up in future, as that's what it will take to sell more albums."

Street quality

iTunes 4.5 answers some critics of digital-music: "Discerning customers and audiophiles want true CD audio, and now iTunes can give you that quality with the new Apple Lossless encoder. You can copy music in this format onto your iPod or iPod mini, to take perfect audio wherever you go," Apple said.

This feature (available in the Preferences menu; see 2) promises CD-quality audio, but takes around half the storage space of a CD.

The new Party Shuffle feature builds new dynamic playlists chosen either from a whole music library or a designated playlist. Users can review

1 million tracks soon, new software features

the songs that are about to play, reorder and delete them from the list, and add new songs to the mix when they wish. Another requested feature: iTunes 4.5 supports unlimited quantities of playlists.

Users can now print playlists, library or album lists (with covers) from iTunes, which now offers "iTunes designer templates" for both black-&-white and colour printers (3).

Music purchasers can download the cover art for their songs, printing this (and track listings) from within the application. When you make a compilation, the software will create a mosaic of cover art using covers from all the different albums used in that collection.

Another neat feature means Mac users don't need to quit iTunes in order to use the Fast User Switching feature of Mac OS X 10.3, for a seamless listening experience.

US music fans derive most benefit from Apple's Music Store-focused release, though the rights they enjoy on purchases have changed: Apple allows shoppers to authorize five (up from three) computers to play music, but has limited the number of times a playlist can be burned to CD from ten to seven. Apple said this was at the request of the labels, with Jobs saying he found it "difficult" to see why an honest user would

5

even hit the seven-burn limit.

UK users installing iTunes may be vexed by the appearance of small arrows (4) beside music they own. Click on these to be instantly taken to the Music Store, where US users can immediately buy more tracks by the artist. These 'QuickLinks' can be switched off in general preferences, for those not about to shop.

UK iTunes users can watch music videos and movie previews within the application, though US users can go one better, buying the music (and soundtracks) for what they see. Apple is also offering a free weekly music download (5) through the store, again a US-only feature.

iMix (6) is a new feature that allows music fans to publish their favourite playlists on a new section of the Store. This community-focused service lets users send messages to friends to tell them the lists are there. Store visitors can vote on iMixes (which are saved for a year) and the top-rated lists are published strategically across the store. This feature requires a valid Apple ID, which means you need a US address to publish your iMix.

6

Fight for the rights

Unique to Windows, iTunes users can also transfer non-rights protected music from Windows Media Audio to Apple's AAC format from any non-rights protected Windows Media Audio file. Inside Digital Media analyst Phil Leigh called this feature one of the most revealing changes in the release.

"Consumers who have used Microsoft software default settings to encode their CD collection into digital files on their PCs, can now convert those files into a format that will play in the Apple iPod," he said.

Leigh believes Apple is trying to establish iTunes and iPod as a de facto standard for the legal distribution of recorded music: "This is an ambitious objective that is seriously challenging Microsoft's hegemony in the PC market for the first time in memory."

Jobs fuelled that fire: "Apple is the only company in the world to offer the best media player, the market-leading digital music device, and the world's leading online music store. Three best-of-breed devices working together – that's pretty good. No one else in the world has this."

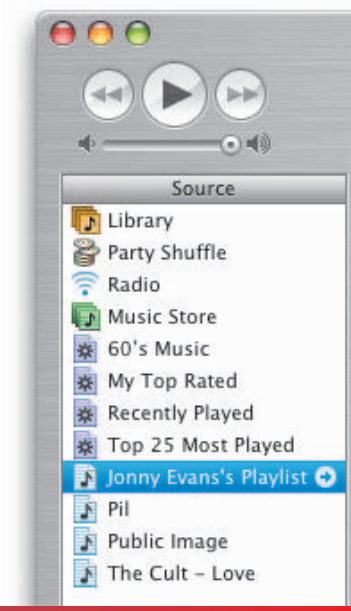
Jonny Evans **MW**

Download fans up

The number of US music fans downloading music increased by 27 per cent between November 2003 and March 2004, research from Pew Internet & American Life Project claims – rising to 23 million. 17 per cent of music downloaders claim that they are using paid services.

Apple's new iTunes on Campus program offers US educational institutions a way to distribute iTunes among their students.

Apple vice-president of applications Eddie Cue told the Financial Times: "We thought the 18-25 age group was a lost cause because they've been downloading music for free for years.



Apple ramps-up laptops

IBM working to solve G5 'issues'

Apple's G5 processor supplier IBM is working to address yield problems at its new manufacturing facility in East Fishkill, New York, where it makes Apple's G5 processors.

Fabrication problems are reported to be affecting production of the PowerPC 970FX chip Apple uses in Xserve G5s, and they may account for the non-appearance so far of a much-expected new-breed Power Mac G5 using these new processors. Yield is the number of working processors that can be cut from a single silicon wafer. IBM is migrating to 90-nanometer process technology at its plant.

Yield problems are not uncommon when a chip maker shifts to a new process technology, said Peter Glaskowsky, formerly editor-in-chief of the Microprocessor Report and now an independent industry analyst.

Apple CFO Fred Anderson has promised that IBM and Apple are "working very, very hard" to resolve these issues.

Glaskowsky told Business Week: "I'm reasonably confident IBM will solve these problems in the next several months."

Apple's roadmap may also feature IBM's next-generation Power5 chip. Apple's current G5 is based on the Power4 processor.

Apple's choice of supplier remains a "safe bet," Business Week suggests: "Big Blue has sunk $2 billion into making Fishkill a showcase plant that's the backbone of IBM's Microelectronics Division".

99.6% The number of UK homes with access to ADSL by summer 2005, says BT.

Apple's year of the notebook entered its sixteenth month in April when it announced new, improved G4 PowerBooks and iBooks featuring the fastest processors yet made available in Mac notebooks.

PowerBook speeds reach up to 1.5GHz, while affordable iBooks max out at 1.2GHz. SuperDrives are available with both product lines. With notebooks accounting for 47 per cent of Mac sales in Apple's recent quarter the company has reduced its prices and delivered new features designed to convince customers to invest in its new breed.

Apple's vice president of hardware product marketing Greg Joswiak said: "We want to make an even better value proposition for our customers. That means making our notebooks even faster and adding more features so people can manage their digital life on the go," he said.

High performance

AirPort Extreme wireless networking and an internal Bluetooth module are standard on new PowerBooks. The 15-inch and 17-inch models use ATI's Mobility Radeon 9700 graphics processor with 64MB VRAM; with 128MB VRAM available as a custom configuration (£40).

"We've always tried to focus on having good graphics engines. Creative professionals demand high graphics performance," Joswiak told MacCentral.

PowerBook SuperDrive speeds have been raised to 4x, and new PowerBook G4s ship with AirPort Extreme and an internal Bluetooth module pre-installed – meaning Apple's pro products compete with WiFi-enabled Centrino PC notebooks.

The new PowerBooks are impressively priced in contrast to the previously available models, particularly at the upper end of the pantheon. UK prices for the previously available range of PowerBooks started at £1,299 for the entry-level 12-inch model (with Combo drive), while in this collection the equivalent costs £1,149. Prices peaked at £2,399 for the 17-inch PowerBook – the equivalent of which now costs just £1,949.

Apple's iBooks have also been improved, with faster chips (1GHz on the 12.1-inch, reaching 1.2GHz on the 14.1-inch model. Apple's SuperDrives are available as a build-to-order option for the 14-inch iBooks for £120. The company has increased the maximum memory capacity of its iBooks, up to 1.25GB of memory. Each iBook ships with 256MB of DDR SDRAM as standard.

The new lineup includes support for advanced wireless connectivity with AirPort Extreme 54Mbps wireless networking (built-in as standard in the 14.1-inch 1.2GHz iBook) and Bluetooth. A slot-load Combo drive for burning CDs and watching DVDs is standard.

Graphics performance has been improved, and the new iBooks ship with FireWire and USB 2.0 connectivity. Software includes: iLife '04, Mac OS X 10.3 Panther, and a collection of productivity and entertainment titles including AppleWorks, Quicken 2004 for Mac, WorldBook Encyclopedia 2004 Edition and Tony Hawk's Pro Skater 4.

The 12-inch iBook costs £799 and hosts a 1GHz PowerPC G4 and 30GB Ultra ATA hard drive. Two versions of the 14-inch are available: the 1GHz iBook costs £899, and includes a 40GB hard drive; while the 1.2GHz iBook carries a 60GB Ultra ATA hard drive, and costs £1,049. UK pricing was previously £849 for the 800MHz 12-inch, £999 for the 933MHz 14-inch, and £1,199 for the 1GHz 14-inch. All prices include VAT.

"These things make iBook the perfect computer as the hub of the digital lifestyle," said Joswiak."

■ Apple CEO Steve Jobs will launch Apple's Worldwide Developers Conference (WWDC) June 28 with a 10am keynote featuring a preview of the next-generation Mac OS X 10.4, that Apple has christened 'Tiger'.

Announcing this Apple said "innovation never sleeps", inviting developers to "preview the highly-evolved Mac OS X 10.4" at the show.

WWDC 2004 will offer almost 200 technical sessions including an in-depth look at the latest Mac OS X technologies. **MW**

MS dominance 'will end'

Microsoft's dominance of the OS market will fade over the next few years, according to Avneesh Saxena, vice-president for Asia-Pacific computing systems research at IDC.

Microsoft currently holds 90 per cent share of the client operating system market with Windows, but this will fall to 58 per cent by 2007 as new devices appear, Saxena said.

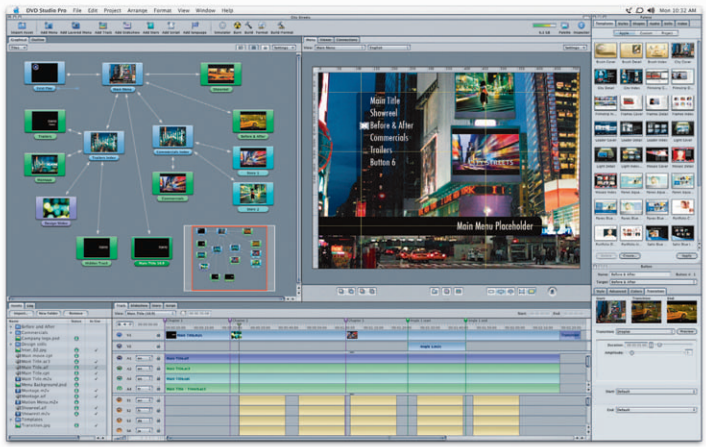
"Operating systems are not going away and we're not going to one single platform," he said, adding: "Different workloads require different operating systems, and the range of new devices will cause Microsoft's market share to fall."

By 2007, Windows on PCs will account for 58 per cent of the market, with a host of mobile OSes taking a slice. The server market will also change, with variants of Unix accounting for 36 per cent, Windows for 35 per cent, and Linux for 15 per cent, he said.

David Legard

Apple's pro video loco Motion

'The computer is now too full of itself. It needs to be about the end customer and the desire to make art or produce a project'
Rob Schoeben, Apple vice president of applications marketing,



DVD Studio Pro 3 (above) is the latest iteration of Apple's slick professional DVD-authoring application. It features a new Alpha Transitions capability and a new Graphical View that visualizes a project's entire flow, the company says. It also includes Compressor 1.2, Apple's media-encoding and compression tool.

Rob Schoeben, Apple's vice president of applications marketing, said: "DVD Studio Pro is the most sophisticated, yet easy-to-use, professional DVD-authoring application on any platform." The product integrates with Final Cut Pro HD, Motion and Adobe Photoshop.

The new Graphical View feature lets authors see the relationships between menus, tracks, slideshows, stories and scripts within a project using a digital storyboard. This information can also be printed for ease of reference.

In transition

Users can choose from 30 professionally designed transitions that can be blended between menus, slides in slideshows and stills in tracks. It also offers standard transitions, such as dissolve, radial blur and fade through colour.

The new Alpha Transitions features consist of what Apple describes as "stunning QuickTime-based movie transitions that add a new level of elegance and sophistication to DVDs".

DVD authors can build their own Alpha Transitions from scratch using Motion or Adobe After Effects.

DVD Studio Pro 3 can scale digital video, Standard Definition (SD) video, HD, and encode directly to MPEG-2 all in one step. It supports Dolby Digital and DTS 5.1 audio.

DVD Studio Pro 3 will be available in May for £349. Registered users of DVD Studio Pro 1 and 2 can upgrade for £139. Prices include VAT. **MW**

Apple revealed aggressive plans to extend its slice of the professional video market at giant US trade show National Association of Broadcasters (NAB) in April, with new products, upgrades and shrewd alliances designed to further favour fortune in this space.

Proclaiming the company to be "committed to nailing HD to the wall", Apple's vice president of applications marketing Rob Schoeben stressed the importance of the end user to Apple's technological implementation. There's a quarter of a million Final Cut Pro editors, Apple said. "We live in that community; we've served that community for a long time, and we get it. We know that professionals want great technology, but they don't want it to sit higher on the pedestal than them."

Motion

Apple's new Motion application (top right) will animate text, graphics and video, offering instant previews of multiple filters and particle effects.

The application supports Behaviours, such as gravity and wind presets for natural movement without using keyframes – though Motion integrates a Keyframe Editor with which to plot precise parameter values at specific frame rates. The product "fits snugly" between Apple's existing video products, but remains effective as a standalone.

Motion's particle engine can apply presets such as smoke, sparkles and fire to any animation. Almost any graphic element on the screen

HD FireWire 'revolution'

Panasonic and Apple are developing a world-first implementation of FireWire with 100Mbps DV-HD, in a move to cut the costs of creating and distributing HD projects.

Compatible with Panasonic's new AJ-HD1200A (right), the first HD production VTR to offer a FireWire interface, the software also works with Final Cut Pro HD. The two companies have been working together for three years to do this.

This means users of Panasonic video cameras can transfer footage over FireWire directly into Final Cut Pro HD with no loss of quality. The material can be edited immediately and is held at original resolution on the hard drive.

Calling the move "revolutionary", Panasonic Broadcast president John Baisley said: "Content creators can embrace the film-like qualities of our VariCam acquisition system at a cost that permits the migration of HD throughout the entire creative process."

Breakthrough

Apple's vice president of applications marketing Rob Schoeben remarked: "We're bringing real-time, native DVCPRO HD editing to Power Macs and PowerBooks at a breakthrough price."

Final Cut Pro HD users can also automatically extract 3:2 pulldown from any 24fps HD VariCam footage, saving an additional 60 per cent in disk storage space, thus providing a highly-streamlined 24fps native HD ingest and editing process. At that point, users can edit camera-original quality HD content on their desktop. **MW**

can be turned into a particle and then modified to create unlimited, customized special effects, Apple said.

Motion also features Dashboards – contextual, semi-transparent floating palettes that provide the tools and slider parameters for objects being animated. Behaviours are applied with a graphical control that appears on the Dashboard.

The product offers a Project Pane – a way to view and manage all layers, filters, behaviours, masks and objects within a project at once. Apple's accent on access means that 25 pre-set Gestures let users focus on the creative process, not on keyboard commands.

Apple now offers a complete suite of applications for film, broadcast and video. Motion integrates with Final Cut Pro HD, DVD Studio Pro 3, Shake 3.5, Soundtrack, and Logic Pro. Motion ships this summer for £199, inc. VAT.

Schoeben claimed: "Motion may do for motion graphics what Final Cut Pro did for non-linear editing – bring the ability to create pro-quality results to the masses."

Apple also released a series of software updates for constituent applications of its Final Cut Pro application: Cinema Tools 2.2; Compressor 1.2 and LiveType 1.2.

Xsan in the mainframe

Apple surprised attendees with Xsan, its high-performance, enterprise-class Storage Area Network (SAN) file system. This 64-bit cluster-file system for OS X has been custom-made to meet the needs of users in the creative industries that want high-speed access to shared data.

This product enables multiple computers (up to 64) with share volumes and files concurrently using a Fibre Channel. Xsan is certified to work with Apple's professional applications.

Features include metadata controller failover, Fibre Channel multipathing, file-level locking, bandwidth reservation, and flexible volume management. Setup, administration and monitoring are conducted using the Xsan Admin Tool.

Because Xsan is interoperable with ADIC's StorNext File System, Apple says it can be used in heterogeneous environments that include Windows, Unix and Linux server platforms. Additionally, Xsan is supported by ADIC's industry leading data management software, StorNext Management Suite.

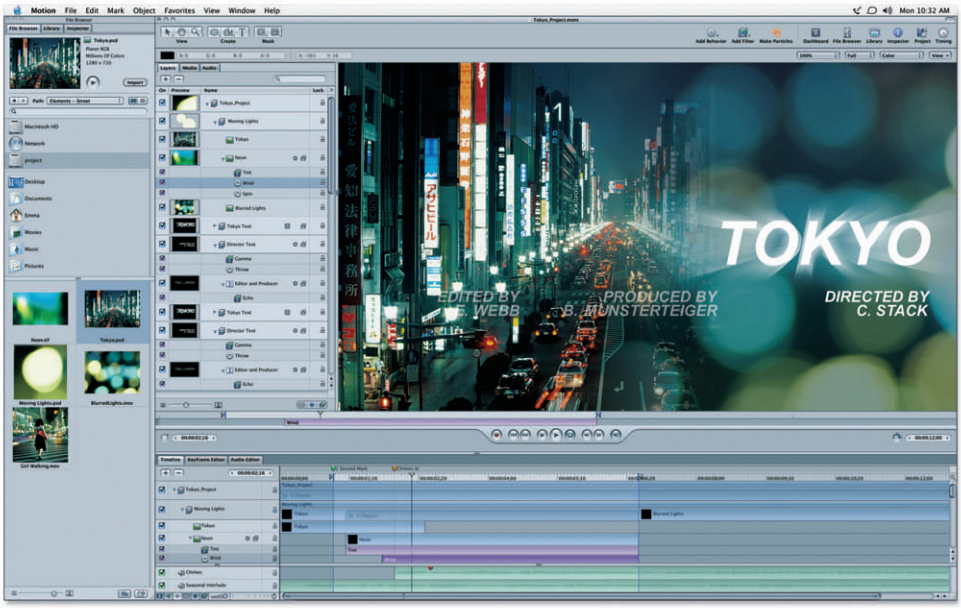
This product is likely to ship in autumn, costing £699 (including VAT), which Apple calls "the industry's most aggressive price point".

Schoeben said the company intended to "bring SAN to the masses," instead of selling a few expensive solutions.

Apple director of server-software marketing Tom Goguen told TechNewsWorld that the product was inspired by video professionals who found it impossible to collaborate on the same media files without a SAN.

"This is an enterprise-class solution, so it goes well beyond our video customers," Goguen said. "I believe we'll have lots of opportunities. With price-performance we've seen a lot of interest coming from places we never dreamed we'd see an Apple logo." **MW**

Jonny Evans



Motion

Cut Pro HD

FCP's HD upgrade

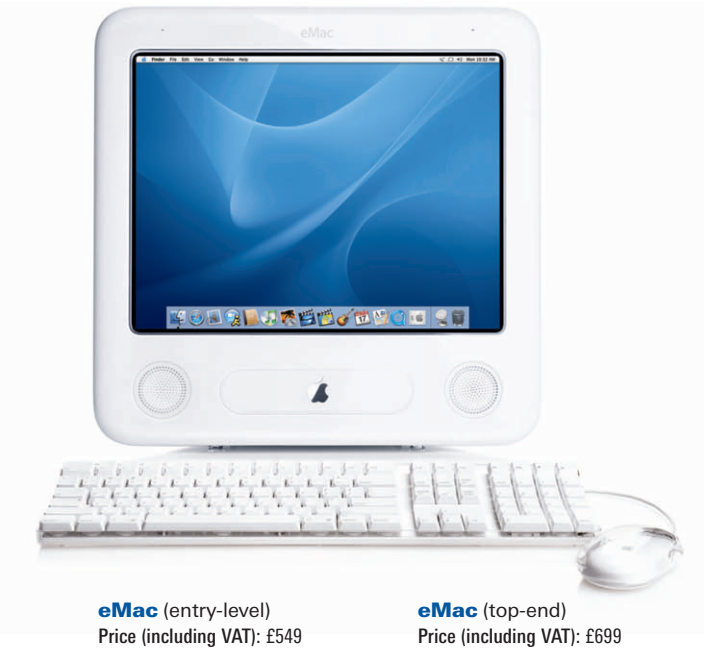
Available now, Final Cut Pro HD (£699) is a free upgrade for Final Cut Pro 4 users, while users of earlier versions can upgrade for £279. Final Cut Pro HD (below) can capture, edit and output broadcast-quality high-definition (HD) video over a single FireWire cable without extra hardware. It does this with no recompression or image degradation, and enables both SD and HD preview monitoring on an Apple Cinema HD Display, Apple said.

With an eye on the needs of video editors, Final Cut Pro HD can playback up to four streams of native DVCPRO HD video or when adding an Xserve RAID, up to ten streams in preview quality. The editing environment can capture, edit and output broadcast-quality HD video. Apple claims that HD components can even be 'cut' on a PowerBook.

The software is optimized for Power Mac G5 and Mac OS X 10.3 Panther, and integrates with Motion, DVD Studio Pro 3, Shake 3.5, and Logic Pro 6.

Using RT Extreme, Final Cut Pro HD offers more than 150 render-free filters, effects and transitions. It includes LiveType 1.2 for resolution-independent animated titling, Soundtrack 1.2 for loop-based music creation, Compressor 1.2 for HD encoding and Cinema Tools for filmmakers working with 35mm or 16mm film. **MW**

Apple's first sub-£500 Mac



eMac (entry-level)
Price (including VAT): £549
G4 processor: 1.25GHz
Optical drive: DVD-ROM/CD-RW
Hard disk: 40GB
Base RAM: 256MB **Max RAM:** 1GB
Graphics: ATI Radeon 9200
Video RAM: 32MB
USB 2.0: 3 **FireWire 400:** 2
54Kbps AirPort Extreme: £79 option
Bluetooth: £35 option

eMac (top-end)
Price (including VAT): £699
G4 processor: 1.25GHz
Optical drive: 8x DVD-R SuperDrive
Hard disk: 80GB
Base RAM: 256MB **Max RAM:** 1GB
Graphics: ATI Radeon 9200
Video RAM: 32MB
USB 2.0: 3 **FireWire 400:** 2
54Kbps AirPort Extreme: £79 option
Bluetooth: £35 option

Apple has ended this year's drought of new products, with new PowerBooks and iBooks (page 70), new video software (pages 20-21), and an improved and even more affordable eMac range.

Emulating PC manufacturers' focus on cutting prices to the quick, Apple's new eMac line-up starts at £467 (£549 including VAT) – a saving of £100 on the previous price. Educational prices are even lower – starting at £439 excluding VAT.

The new eMacs offer up to 1.25GHz G4 processors, faster 333MHz DDR memory, and ATI Radeon graphics cards. This upgrade cycle also brings the eMac up to date with the rest of Apple's Macs, by supporting USB 2.0.

Apple vice president of hardware product marketing Greg Joswiak said: "eMac provides everything you need for today's digital lifestyle including iLife '04 for creating and managing digital photos, music and movies."

Originally released as an education-only option, eMacs quickly became an option for all Mac users. "One of the things we designed the eMac to be is compact and durable for places that kids are, whether it's in the home or in school, said Joswiak.

"Education has always been the primary customer for the eMac, and it does very well in that market. It's the computer for the most value-minded Mac customer."

Schools can also purchase 1GHz eMacs (without any optical drive) for as little as £365 (excluding VAT).

Faster SuperDrive than G5

The eMac's 8x DVD-burning capability is twice as fast as even that in the top-of-the-range Power Mac G5. However, Apple is likely to bump the G5 and iMac's SuperDrive to 8x in the near future.

The ATI-boosted graphics capabilities of the new machines drove Joswiak to tell MacCentral: "The integrated graphics that you see on PCs really pale in comparison to what we provide with the Radeon 9200 and its dedicated video memory."

As well as Mac OS X 10.3 and iLife '04, the eMac comes with a collection of productivity and entertainment titles including AppleWorks 6, Sound Studio, and WorldBook Encyclopedia 2004 Edition, as well as a couple of games (Tony Hawk's Pro Skater 4 and Deimos Rising). MW

iPod Smart car – just £12K a pop

Vehicle manufacturer Smart plans to sell a special limited-edition run of 70 white fortwo cabrios equipped with iPods at £12,500 each.

The included 20GB iPods are branded with the Smart logo. The car integrates an iPod playback and charging station from the company. The Smart iPod car-integration kit will be made available for Smart's fortwo and roadster models later this year.

Smart has developed a special console connected to the Smart audio system especially for the Apple iPod: "Get in, put the iPod in its console, switch on the radio, turn up the volume, and listen to hours of music – because your iPod charges when you're on the road."

Smart UK and Ireland chief executive Jeremy Simpson said: "As an iPod owner I am delighted to launch this special-edition model. The brand fit between Apple and smart is perfect. Both brands offer a high degree of innovation, and individuality and combine technology with style and exciting design."

AirPort Base Station draws power over Ethernet

Apple has updated its AirPort software for Mac OS X and Windows, and introduced a new AirPort Extreme Base Station model. The new Base Station, which includes an antenna port but no modem) integrates Power over Ethernet support, based on the 802.3af standard, so it can receive both data and power over Ethernet. This gives network administrators greater flexibility in deploying base stations. This version supports a standard called UL 2043, meaning it can be installed in air-handling systems, or in the gap of extended ceilings.

Three models of AirPort Extreme Base Station are available. In addition to the £189 Power over Ethernet model, Apple offers a Base Station with modem and external antenna port (also £189), and a £149 model without modem or antenna port. Prices include VAT.

AirPort Update 3.4.1 (8MB) gives better antenna output control, enhanced logging from any syslog-compatible Base Station and better wireless security. Apple has also updated its AirPort Admin Utility for Windows, which offers similar options such as antenna output control. Upgrading to AirPort 3.4.1 requires software installs on both Mac and Base Station. Apple's AirPort Management Tools – which provide tools for planning, setting up, fine-tuning, and managing enterprise-class wireless networks – have been upgraded. MW

Apple Shakes it up at NAB

Apple has announced Shake 3.5, the next version of its industry-standard compositing and effects tool. Shake 3.5 delivers fresh features: shape-based morphing and warping tools, and new "shape-shifting" special effects. It has been 'fine-tuned' to exploit G5 Power Macs and OS X 10.3.

Apple's vice president of applications marketing Rob Schoeben said: "Shake is the production-proven product for delivering quality, speed, openness and affordability for resolution-independent visual effects.

"Apple has integrated shape-based morphing and warping directly into Shake 3.5, making these features even easier to create."

Shake has been used in every Oscar-winning film for Best Visual Effects for seven years, including this year's winner, The Lord of the Rings: The Return of the King.

Shape-based morphing and warping use industry-standard spline tools. Apple says the nature of the implementation makes it more intuitive to use than traditional mesh-based warping

tools. They complement Shake's existing tools, including layering, tracking, rotoscoping and painting.

Apple's Rendezvous-enabled Shake Qmaster render manager now handles distributed rendering tasks for both Shake and Alias Maya, so artists can distribute rendering tasks across a cluster of Xserves or G5s.

Shake 3.5 offers what Apple claims is "one of the fastest resolution-independent software rendering engines on the market," with production-proven effects tools and a compositing architecture that supports simultaneous multiple resolutions and colour depths. It's available for OS X, Linux and IRIX.

Shake 3.5 for OS X with unlimited render licences costs £2,099, while Linux and IRIX versions cost £3,399. Annual maintenance is £999. Upgrades from Shake 3 cost £549. Prices include VAT. MW

Maya 6 arrives

Alias has announced Maya 6 – the latest upgrade to its 3D-animation and special-effects software. This version features advances in character creation and animation. Software rendering times on the Mac average 20-50 per cent faster than previous versions, Alias says. See page 48 for more details.
01494 441 273

Surrounded

SRS has announced its SRS Circle Surround plug-in for Digidesign Pro Tools that lets users encode up to 6.1 channels of audio and monitor the results using a real-time decoder. It will cost £522, and requires Pro Tools 6.0 or higher, and Digidesign Mix, HD or HD | Accel for Mac OS X.
Unity, 01440 785 843

Discreet tweak for Final Cut

Discreet announced plans to support Final Cut Pro's XML-based interchange format in upcoming versions of its editing and visual-effects systems. This means work made in Final Cut Pro will be directly transferable to Discreet's Smoke and Fire systems.
www.discreet.com

Digital assets

DMOD's WorkSpace, a digital-asset management and distribution system, no longer supports Mac OS 9. The new version supports Safari, offers email notification, group support, optimized encryption algorithms for improved performance, and more.
www.dmod.com

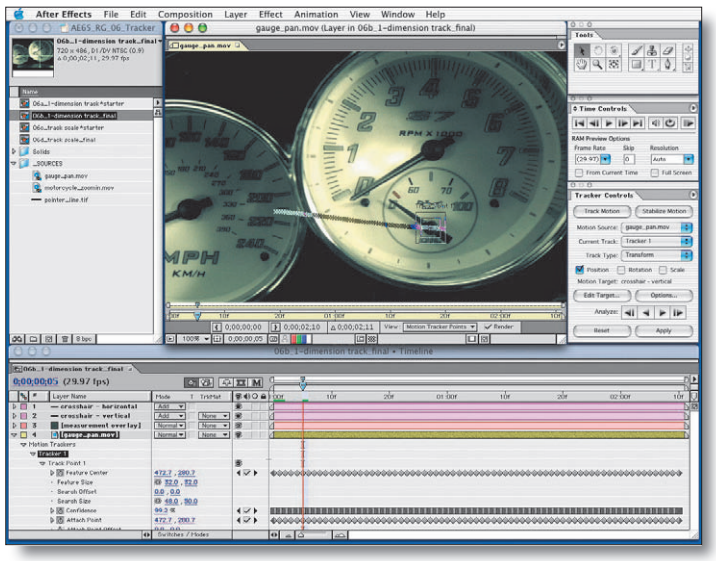
Adobe announces After Effects 6.5

Adobe announced After Effects 6.5 – the latest version of its motion-graphics and visual-effects software. This version offers new features including Animation Presets and an advanced clone tool. Animation Presets let users save any combination of layer properties, including text animation properties, and apply them to other layers.

There are more than 250 text Animation Presets, and over 60 new effects enable users to create visuals including light rays and 3D particles.

A Clone tool offers a visual overlay of the clone source, and five user-definable presets to employ. After Effects 6.5 Professional adds three grain-management tools, and both editions include one-click tools such as Auto Color, Auto Levels, Auto Contrast, and Shadow/Highlight.

For advanced colour-correction, After Effects includes Color Finesse from Synthetic Aperture, a professional 32-bit floating-point colour-correction system. Motion-tracking in After Effects 6.5



Professional has been enhanced for greater accuracy and flexibility.

Adobe says After Effects 6.5's previews and support for OpenGL are faster and more accurate. It also claims After Effects 6.5 has been optimized for the G5.

Available in the Q2, After Effects 6.5 Standard will cost £664, and After Effects 6.5 Professional, £1,075. Prices include VAT.
020 8606 1100

Avid's Xpress Pro video format boost

Avid Technology announced that it will broaden the number of HD video formats its cross-platform Avid Xpress Pro product will support when it ships later this year. It will be able to edit native HDV MPEG and Panasonic DVCPRO HD formats, and will offer support for Avid DNxHD – a 10-bit HD encoding tool that enables HD post-production with the same storage bandwidth and capacity requirements as SD files.

Mixing formats in the timeline

Avid European product manager Owen Walker said: "Avid Xpress Pro already offers a wealth of advanced editing features, and now we're taking a giant leap forward by announcing the broadest range of support for HD formats in a portable editing solution.

"Whether working with HDV, DVCPRO HD, or Avid DNxHD formats – or mixing them together in the same timeline – our customers will be able to edit media of astonishing quality, even on a laptop, without lengthy transcode times or the bulky storage requirements typically associated with HD media."

Avid also announced version 4.5 of its Xpress Pro software, offering new production capabilities, including Material Exchange Format (MXF) support, Panasonic DV50 media compatibility, FluidFilm progressive encoding, and SmartSound SonicFire Pro professional soundtrack creation.

The version of Avid Xpress Pro software with HD capabilities is expected to be available in late 2004.

Avid Xpress Pro 4.5 (without HD) is expected to ship in Q2 2004 as a free upgrade for existing customers. Avid Xpress Pro costs £1,199.

www.avid.com

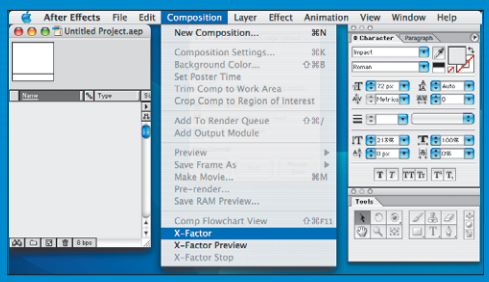
Gridiron's X-Factor

Gridiron Software announced its X-Factor plug-in for Adobe After Effects 6.5. X-Factor enables After Effects users to preview and render video effects faster using a grid computing network, the company says.

With the X-Factor plug-in installed, After Effects Pro 6.5 users can divide and distribute their work among multiple networked computers. This doesn't turn networked After Effects machines into a render farm – the distribution happens in the background while the software is being used.

Gridiron expects to release a free version of X-Factor that will run on two computers. X-Factor Plus will cost $100 per CPU, and will support more than two computers and include remote management capabilities. X-Factor Unlimited offers unlimited CPU use for $2,000.

www.gridironxfactor.com



Mac DVD fillip

Sonic announced two Mac-compatible tools for its pro DVD-creation systems. eDVD3 adds Web and DVD links to titles for $899. DVD Producer 4.5 includes compatibility with DVD+R double-layer DVD drives for $1,999. www.sonicsoftware.com

G5 MovieMaker

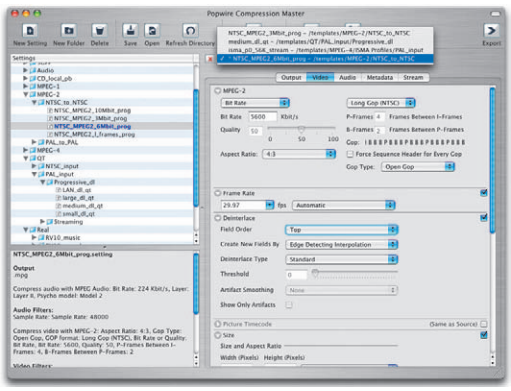
Optibase has made MPEG MovieMaker 200S available for the Power Mac G5 and Mac OS X. It comprises an encoding board and a management tool. It supports MPEG-2. Price is to be confirmed. www.optibase.com

Video feeds Mac-bound

Popwire announced **Ingestion Engine**, a software-based video server for Mac OS X designed to enable a Mac equipped with a pro video-capture card and "off-the-shelf hardware" to capture and play a video feed. Features include on-demand digitizing of tape, automated clip-archive retrieval, and connectivity with Popwire's Compression Engine for transcoding. It should be available this summer. Price is to be confirmed.

Popwire Technology also announced **Compression Master 2.3**, an upgrade to its media-encoding application, and **Compression Engine 1.6**, the latest iteration of its server-side media coding software. Compress Master 2.3 includes 80 professional encoding templates, the ability to create watermarks from video, configurable output naming conventions and new output formats. It costs $5,742.

Compression Engine 1.6 adds features the ability to use full-motion videos as watermarks, better de-interlacing quality through edge detection interpolation, and new output formats.



It costs US$7,772. UK pricing was unavailable as Macworld went to press.

www.popwire.com

ATTO bridging the fibre gap

ATTO announced that its FibreBridge Fibre Channel-to-SCSI Bridge line has been certified for Dantz Retrospect 6.0 backup software. The company also says that its Diamond Storage Array S-Class for HD has been certified for Pinnacle CinéWave; and that OS X 10.3 drivers for ExpressPCI Ultra320 and Ultra3 SCSI host adaptors have been updated.

This gives the ability to use legacy SCSI storage for backups. ATTO's Fibre Channel-to-SCSI Bridge line ranges from a basic model with one Fibre Channel port and one SCSI port to an advanced version with three Fibre Channel ports and four SCSI ports.

www.attotech.com

Apple London 'by year-end'

Apple has confirmed that it will open a flagship retail outlet in London in November 2004 – and the company is looking for Mac users to run its operation.

The disclosure came during Apple's discussion of its recent strongest March quarter for four years (see Business News, page 34).

Apple's outgoing CFO Fred Anderson said: "We plan to continue to add retail stores. We expect to open ten stores by the end of the year, and are excited to announce the opening of our London store before the end of the year."

Apple CEO Steve Jobs used the London launch as a case in point to deny that Apple is US-centric. "You're just dead wrong," he said. "Apple ships localized versions of its products at the same time as the US version in most cases. Apple has online stores in many international markets, an Apple retail store in Tokyo Japan, and plans to open one in London later this year.

The company's retail segment has transformed itself into a successful business, flying in the face of the failure of Gateway's bricks-&-mortar operations (see below). Its outlets contributed $5 million in sales profit and $40 million in manufacturing profit to the company. Average store revenue was $3.5 million – up from $2.6 million in the year-ago quarter for a 97 per cent year-on-year increase in retail revenue.

Speaking last month Apple's VP of retail Ron Johnson revealed the London store will have two storeys and be 75 feet wide. "There will be other neat elements", he said.

Apple is hiring too, looking for "passionate individuals with special skills and talents".

An ad on Apple's Web site says: "The Apple Store offers a unique opportunity to share your passion for Apple products and technology with customers and Mac enthusiasts. The Store is a rewarding environment in which to build your career."

Jobs on offer include a Mac Genius, a Mac Specialist, an Inventory Specialist, and an assistant store manager. Apple's UK Mac Genius should aim to "ensure no Mac User ever again receives inadequate service or second-class treatment," while the customer focused Mac Specialist will "provide complete and appropriate solutions for every customer, regardless of the potential revenue they represent."

The assistant store manager should "drive friends mad with deep discussions about philosophy and vision", and "needs to be able to comfortably translate technical information to a non-technical customer."

As Macworld reported in April, Apple will open the store inside a Grade II listed building situated at 229-247 Regent Street.

Apple's flagship UK store may end up being a 21st century mix of an 18th century façade with Apple's modern style. The Crown Estates site is being developed by Stanhope, but approval is required to alter the building's façade. Johnson said: "We're going to respect the façade." Apple plans to return the store to what it was "many, many years ago", retaining the original design of the Apple-occupied part of the building, according to Ifoapplestore.com.

Apple's in-store focus is to build an "atmosphere that is inviting, not intimidating, forward-looking, warm, interactive, and that makes you feel intelligent just by being there," said Johnson.

Apple's retail strategy has generated a multi-million dollar lawsuit against it in the US, where a group of former Apple resellers are suing the company for $7.5 million, alleging it committed fatal damage against their businesses by favouring the needs of its own retail outlets above those of independents. "It's time Apple's conduct is made known to shareholders," said Thomas Armes, CEO of Elite Computers. More information at www.tellonapple.org.

Johnson, however, believes retailers near Apple's own stores are seeing boosts in sales. **MW**

Jonny Evans

100 million
Number of eMacs sold in Japan after a computer glitch offered them for just £14 each.

90% Japanese market share Apple would have had if the order were honoured.

Gateway shuts up shop

While Apple expands its retail operation, Gateway has announced plans to close its entire network of 188 US own-brand stores, laying-off 2,500 staff. The company continues to sell products over the Web and phone, and hopes to leverage its recent purchase of eMachines to get its products into third-party retailers.

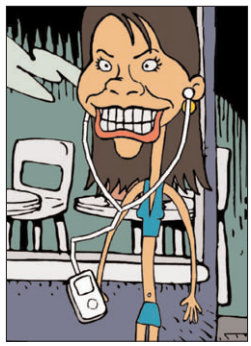
eMachines' retail channels include most of the big electronics stores in the US, according to Rob Enderle, principal analyst with The Enderle Group.

Maintaining its own network of stores would have put Gateway into conflict with the other retail outlets, so a decision to close its own properties was an obvious one to make, Enderle said.

"Gateway made a strategic decision: Either the (Gateway) stores had to go, or the retail channel had to go," he said.

Gateway needs to move into consumer electronics retail as it attempts to develop its electronics business, selling products such as its own-brand plasma screen televisions.

The job cuts amount to a 38 per cent reduction in Gateway's total headcount, leaving it with about 4,000 employees. MW



Tosh and Becks

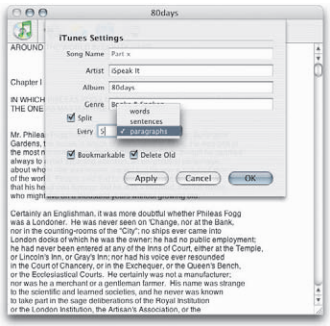
UK satire show 2DTV ran a short sketch featuring celebrity iPod owner Victora Beckham.

In a satirical twist on numerous reports claiming muggers are targeting iPod owners, the show ran a sketch in which a hapless Posh about to be so-robbed cried to her assailants, "Don't take this, it's got my new album on".

The miscreants ran away empty-handed.

See and hear

Developer Zapptek has released iSpeak It 1.5, a $12.95 solution that lets Mac users convert any document or Web page into an MP3/AAC track that can be stored and retrieved in iTunes or carried and played on an iPod. It uses the built-in Mac text-to-speech capabilities to achieve this. The solution is compatible with any PDF, Word, AppleWorks, RTF, HTML or text document. The unregistered version of the software will transfer only the first 1,000 words of the document.
www.zapptek.com



Seventh Server heaven

FileMaker has released a free preview version of FileMaker Server 7, which it's making available to all its customers. It has also released FileMaker meetings 2.0 and FileMaker Tasks 2.0 in the US – bespoke applications built to meet specific business needs and compatible with FileMaker Pro 7. FileMaker Donations and Recruiter are slated for release later this summer.

The preview consists of a functional pre-release version of FileMaker Server 7, which can be used with any version of the new FileMaker Pro 7 and FileMaker Developer 7 – including the also-available trial and full versions of the standalone database apps.

FileMaker Server 7 is high-performance server software built to manage and share FileMaker Pro 7 database solutions among groups.

Like FileMaker Pro 7, the company's Server software has been rebuilt, and offers a "significantly remodeled" server architecture.

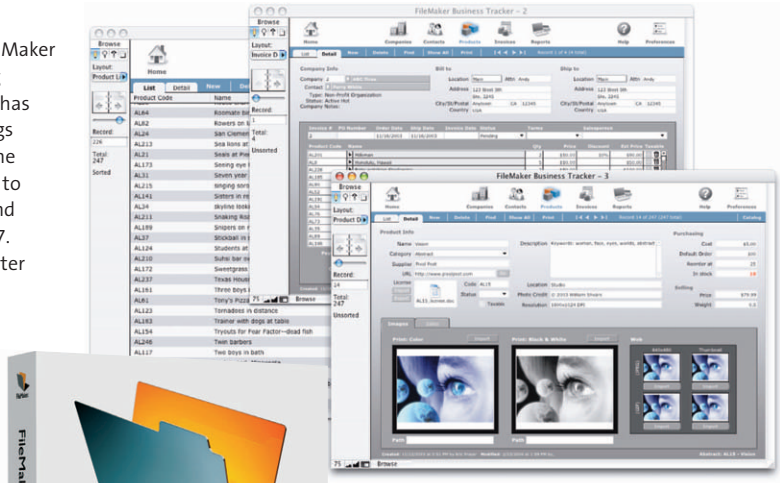
Additional features include the capacity to exploit high-performance external hard-disk storage systems, support for multiple processors, and support for a range of operating systems.

The solution also offers powerful security features, such as Secure Socket Layer (SSL) support. Most significantly, the software can back-up data with no downtime – meaning valuable data is always available to users in intra-, inter- and extranets. External authentication is based on industry-standard Active and Open Directory security protocols.

FileMaker Server 7 Advanced is an enhanced version of Server 7 that includes high-volume 'instant' Web publishing, support for custom Web sites, and support for industry-standard integration through ODBC, JDBC, and XML.

FileMaker Meetings and FileMaker Tasks offer new features. Meetings lets users create an agenda, record and distribute meeting minutes and assign action items based on the outcome. The new version will also compile histories of action items using built-in tools, and archive supporting documents into the meeting information. FileMaker Tasks 2.0 also supports tasks within tasks (subtasks) and generates reports to keep an eye on task status.

FileMaker Server 7 costs £650 (£325 upgrade). The company will release FileMaker Server 7 Advanced later this year (£1,650, £1,000 upgrade). Also available soon will be FileMaker Mobile 7, which will cost £45. Prices exclude VAT. MW


FileMaker Business Tracker – 2
FileMaker Business Tracker – 3
FileMaker Server 7
Efficiently manage multi-user solutions
FileMaker Server 7

Socket to 'em
FileMaker Server 7 contains security enhancements including Secure Socket Layer support.

70% of the UK public would sell their computer password for a bar of chocolate.
Source: InfoSecurity Europe

Cut-price cable shakes ADSL

Cable operators Telewest and NTL have launched counter attacks to see off the effect of falling ADSL broadband service prices – introducing faster services to new and existing users for the same price.

Users of Telewest's 512K, 1Mb and 2Mb services will soon enjoy services rated at 750K, 1.5Mb and 3Mb. These will cost £25, £35 and £50 per month respectively. The service upgrade will be in place by the end of May and will be rolled-out regionally.

Telewest Broadband director of Internet service Chad Raube called the move. "The biggest shake-up in the broadband market for some time."

However, low-end broadband (256K) customers won't see any benefit as for them the speed remains the same – 256K. However, Telewest believes 450,000 of its customers will draw benefit.

NTL has similar plans. That company is raising speed for several services, so its 150K service becomes 300Kps for £17.99; the 600K service hits 770K for £24.99 and NTL's 1Mb service now offers 1.5Mb for £37.99.

NTL residential services managing director Aizad Hussain said: "We are raising the bar for speed of service." Ramped-up services will be rolled-out across the network in the coming weeks.

■ In related news, BT last month announced its plans to enable ADSL at a host of new exchanges across the UK by summer 2005, ensuring broadband services will be made available to 99.6 per cent of UK households and businesses. MW

Trojan virus threat 'imminent'

Mac users have received fair warning that viruses may arrive on the platform soon, when Intego revealed news of a virus called MP3Virus.gen or MP3Concept.

This isn't a virus per se, but a demonstration of how an OS X weakness could be exploited by a malicious Trojan Horse or other virus authors. If a user opens the MP3Concept MP3 file, an executable application hidden in its ID tags will run in the iTunes music program. A dialog box then pops up reading: "Yep, this is an application. (So what is your iTunes playing now?)"

The MP3Concept is activated only if a user clicks on an infected file in the Finder. If that same file is played from within a music player, such as iTunes, the virus does not activate. If activated, MP3Concept accesses files in the System folder. It has the potential to be modified to delete files or spread by mailing itself to addresses found in the user's address list, Intego said.

The company was criticized for exaggerating the threat of the Trojan horse. In a press release the company defended itself: "While the first versions of this Trojan Horse that Intego has isolated are benign, this technique opens the door to more serious risks. The exploit that it uses is both insidious and dangerous, and it is our duty as a security vendor to protect our users." The implicit danger is that the code could be modified to cause damage, but critics insist Intego's actions were alarmist.

Despite this, dangers remain. Gartner research director Ray Wagner told MacCentral: "This gives absolute proof that there are vulnerabilities in Mac OS X. It's relatively high-profile because of the use of MP3, but this doesn't appear to be a terribly big deal."

There are very few viruses for Mac, as virus writers haven't considered the platfom, which holds under 5 per cent of the PC market as a viable target. But this may change: Sophos senior technology consultant Graham Cluley warned Macworld that some virus writers are considering other OSes: "A small number of virus writers are showing an increased interest in Unix, and there have been Unix worms that have spread in the wild."

He added: "For this reason Mac OS X users should not think they have nothing to worry about."

Cluley stressed that there is no need to panic – yet: "There's no evidence of any imminent attacks on Macs in the same way we have seen on Windows systems."

"Any Mac malware release will be stopped in its tracks by the lack of a large user base – writing one could be a waste of time," said Jan Andresen of UK security firm mi2g.

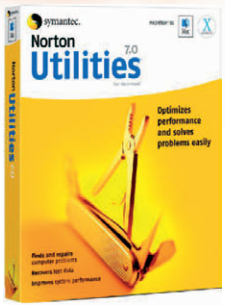
Network Associates' McAfee Antivirus and Vulnerability Emergency Response Team's Vincent Gullotto told Dow Jones: "If you're on a Mac system today, you are relatively safe from getting infected by a virus. Almost everything is susceptible to some type of attack, whether it be large or small. And there are people out there who are thinking about this all the time."

Newsfactor reports that some security researchers warn a source of the vulnerability could be that OS X is based on BSD Unix.

Apple said: "We are aware of the potential issue identified by Intego and are working proactively to investigate it. While no operating system can be completely secure from all threats, Apple has an excellent track record of identifying and rapidly correcting potential vulnerabilities."

Virus vendors are updating their antivirus software to protect against the Trojan software. OpenOSX has also released TrojanDefuser software that will make suspected files harmless. This software has been made available under an open-source licence, free of charge.

For protection, most vendors agree that Mac users should ensure they install the latest system security updates, and that their virus protection software is fully up-to-date. **MW**



Mac Norton canned

Symantec has ended development of Norton Utilities for Macintosh. The company will also discontinue Norton SystemWorks for Macintosh – which includes Norton AntiVirus as well as Norton Utilities.

Symantec senior product manager Nancy Mohler told Mac Observer: "The decision was based solely on the strategic desire to focus Macintosh development resources on Internet security solutions. This decision is also not a reflection of a lack of customer need.

Norting intends selling Norton Utilities 8.0 for Macintosh and Norton SystemWorks 3.0 for an unspecified time, and will maintain support for Mac OS X 10.3. The company continues to develop Norton AntiVirus.

Viruses, worms and Trojan horses

A computer **virus** is software designed to spread itself by illicitly attaching copies of itself to legitimate software. Although not all viruses perform malicious actions (such as erasing your hard disk), any can interfere with the normal functioning of your computer.

A **macro virus** is a virus written in the macro language of an application (a programming language that enables you to automate multiple-step operations). Most macro viruses infect Word (Version 6.0 and later) and Excel (Version 5.0 and later) documents. Like others, macro viruses can be very destructive.

Viruses, alas, are not the only potentially destructive software that you may encounter. **Worms** are similar in that they replicate, but they do not attach themselves to files. A worm replaces a legitimate program or file on your system and performs its mischief whenever that program is run.

A **Trojan Horse** is an intentionally destructive program masquerading as something useful, such as a utility, software updater, or game. Although worms and Trojan Horses are not viruses, most commercial antivirus programs can detect and remove them.

■ Extracted from the **Mac OS X Bible Panther Edition** (Wiley, 2004).

Handy software

PalmOne has released Palm Desktop 4.2.1 software for Mac.

The tool is required in order to view, sort, edit, backup and add apps to a Palm OS-powered handheld device.

National stealth service

Gamers who like stealth titles (Metal Gear Solid) should welcome news that Aspyr has begun work on critically acclaimed title Tom Clancy's **Splinter Cell**, which has entered beta testing. Aspyr hopes to release the game – the PC version of which has seen heavy advertising on UK TV networks – in May.

Splinter Cell is a covert stealth-action title with a deep storyline that features characters inspired and approved by author Tom Clancy. Aspyr promises "revolutionary lighting, shadowing, animation, physics, and sound effects" that help create an "astonishingly realistic tension-filled experience".

Two undercover CIA agents who have been spying on a rogue political faction have vanished without trace. Fearing the rogue outfit may be planning more hostility, the US military has activated Splinter Cell to infiltrate and investigate – he has the right to spy, steal, and destroy.

The game features a multiplicity of stealth techniques including sniping, rappelling, and using human shields to take the gaming action to a new level of complexity and depth.

Aspyr also plans to release **Homeworld 2** in summer, a port of a highly acclaimed space strategy series. It combines real-time strategy with an excellent storyline, and is graphically sumptuous according to reviews in PC magazines. The original Homeworld title took many game-of-the-year awards on release in 1999, and the sequel is attracting the same level of critical acclaim.

In this game players lead a clan who must wander in the oldest regions of the galaxy to meet an unknown enemy and discover the reasons behind their exile.

Aspyr has released a demo of its hotly awaited Mac port of Electronic Art's **Command and Conquer: Generals**, which offers Mac gamers the chance to be the "ultimate modern warfare general". The demo contains one training mission for the US side, and two complete game missions for the Chinese and the Global Liberation Army.

The £39.99 (including VAT) game requires Mac OS X 10.2.6 or later, a 1GHz G4 or G5, at least 256MB of RAM, and a DVD drive. MW

Top 10 games

1. Unreal Tournament 2004
2. Command & Conquer Generals
3. The Lord of the Rings, Return of the King
4. Halo
5. Age Of Mythology
6. Sim City 4
7. Championship Manager 03/04
8. Jedi Knight Jedi Academy
9. Tomb Raider Angel of Darkness
10. RayMan 3 Hoodlum Havoc

Worm warfare

UK Mac games house Feral Interactive's Worms 3D is now available – play the demo on the CD.

Worms is a turn-based strategy game. Teams of worms battle across either bizarre randomly generated landscapes or custom designed levels. Teams try to eliminate others using bizarre weapons and other tools they have found.

The winning team is the one that manages to survive – but there's limited time to make a move before the game automatically switches to the next team. The demo is for OS X only. The full game costs £30 (including VAT).

www.feral.co.uk

Xenophaquinox

Xenophaquinox is an unusual – yet simple to play – game that combines elements of puzzle, board, and strategy games. It offers five difficulty levels, one- and two-player modes, and supports timed games. Registration costs $10.

www.goldfishsoft.com

On your Macs, get set, glow

MacPlay will announce award-winning title Tron 2.0 for Mac in May. Inspired by the cult sci-fi film, the game takes place 20 years after the movie, and has already come in for over 20 'best of 2003' awards and nominations.

Gamers are digitized into cyberspace to battle corruption both inside and outside of the computer world, while exploring locations including the Internet Hub, Firewall, Corrupted Server and Light Cycle Game Grid. In addition to the single-player experience, Tron 2.0 offers team-based multiplayer levels that allow up to 16 players to compete simultaneously

"Tron 2.0 is a fantastic follow-up to a groundbreaking movie," said MacPlay CEO Mark Cottam. "The light cycle levels serve up some of the most action-packed game play I've ever seen."

Tron 2.0 upgrades the action with glowing 3D graphics brought to life with Touchdown Entertainment's state-of-the-art Jupiter engine. The cutting-edge "glow effect" brings to life and updates the look and feel of the film.

The game features voiceovers from the original Tron movie actors. It costs $49.99 in the US – UK pricing was unavailable as Macworld went to press. MW

Business briefs

- Apple shareholders have re-elected the company's six-member board and voted down a proposal to restrict executive pay.
- Apple has closed its Elk Grove production plant in California – laying off 235 workers.
- Adobe CEO Bruce Chizen says Adobe gets between 22 and 25 per cent of its business from the Mac, and that Apple will maintain its customers' loyalty.
- Compression Labs has launched action against Apple and others in a case related to a compression patent (the '672 patent) used in the JPEG format.
- Apple executives sold shares worth $46 million in April as shares hovered at the top of the 52-week range.
- Global music sales fell 7.3 per cent in 2003, says industry group the International Federation of the Phonographic Industry, though UK music sales remain 'resilient'. IFPI blames piracy.
- Europe's PC market continues to grow, with signs of a corporate IT refresh cycle starting up in the territory, reports IDC. PC sales grew 20 per cent in Q1.
- BT now plans to extend ADSL services to 99.6 per cent of UK homes by summer 2005.
- Amazon's Q1 net revenue grew 41 per cent to $1.53 billion.
- Motorola reported massively improved financial results with improvements in all sectors. Its semiconductor unit saw sales up 21 per cent to $1.4 billion.
- Tim Berners-Lee has been awarded the first-ever Millennium Technology Prize.

Apple revenues up 29%

Apple beat expectations in a quarter it called its "best March quarter for four years". It made $46 million profit (up from $14 million a year ago) on revenues of $1.9 billion – up 29 per cent year on year.

iPod shipments exceeded Mac sales in the quarter – 807,000 – accounting for $264 million in revenues. 749,000 Macs (711,000 in the year-ago quarter) shipped for $1.2 billion in revenue. iPod sales beat those of the Christmas quarter. Apple CFO Fred Anderson said 2.8 million iPods have sold now. Apple is "exceptionally pleased" at the results, driven by a "more diversified portfolio of hardware, software and services," he said. Apple CEO Steve Jobs said: "We experienced growth in most areas of our business."

Schwab Soundview Capital analyst Michelle Gutierrez told Associated Press: "iPod sales blew my numbers out of the water. I had expected a decline of 20 per cent instead of the 10 per cent surge from December's quarter."

Apple senior vice president of finance Peter Oppenheimer explained Apple's move to delay global launch of iPod mini until July after exceptionally strong US demand. Apple "expects iPod supply to be constrained in the third quarter based on component shortages, but hopes to catch up in Q4," he said.

Apple had hoped to sell 200,000 pro desktops, but shifted 174,000. Oppenheimer said: "This was in some part due to reduced channel inventory, now at 4-5 weeks". He claimed true sales (as Apple cleared stock in channel) were "around 190,000". "We think we will be above and below the 200,000 target depending on seasonality, and where we are in the product lifecycle," he said.

Tim Cook, executive vice president of worldwide sales and operations, discussed chip supply problems: "We were not happy with the deliveries of G5 chips. IBM is working hard to meet demand." This delayed Xserve G5 shipments.

Apple shipped 201,000 iBooks in the quarter, a 51 per cent increase year-on-year that matched sales in the previous quarter. PowerBook sales were 157,000 – 19 per cent fewer than this a year ago, and 5 per cent fewer than Q1. Portables were 48 per cent of Mac sales. iMac and eMac sales were 217,000, 15 per cent down on last year.

Total shipments increased 67 per cent. Shipments grew 7 per cent in the Americas and 4 per cent in Europe, compared to Q2 last year, but fell 29 per cent in Japan.

"I am not happy about performance in Japan. We have a number of initiatives in place. Japan is not a great growing market right now. I'm personally putting a lot of energy into Japan, as are a lot of people at Apple", said Anderson. The company said it expects to record $1.925 billion in revenue during the third quarter.

Apple's retail segment "continues to deliver," Oppenheimer said, with revenues of $266 million – just $7 million below the holiday quarter. Retail delivered $5 million in profits as well as $40 million in manufacturing profit, the company said.

This optimistic Apple: "Sees each part of its portfolio growing. We are focused on growing revenues, rather than market share. In the markets we market to, we think we are gaining momentum. Our pro products are up 26 per cent, and we think we are gaining share in the consumer markets we participate in," Anderson said.

Gutierrez said: "Apple's share has dropped to 2.3 per cent from 5 per cent in 2000. It remains to be seen whether the campaign to get people to switch will help Apple expand its PC business... The kids have iPods now, and they're telling parents they want a Mac. Apple could use that for more PC sales".

Needham & Co analyst Charles Wolf told Macworld: "The results were terrific. My only concern – Mac sales, which should have grown faster given the current health of the PC industry." MW

Jonny Evans, Karen Haslam

It's not US and them – indignant Jobs

Apple CEO Steve Jobs refuted criticism that it has a US-centric approach to business during Apple's annual shareholders meeting. "You're just dead wrong," he said. "Apple ships localized versions at the same time as the US version in most cases. Apple has online stores in many international markets and a store in Tokyo Japan, and plans to open a second in Osaka and in London later this year.

"We pay a lot of attention to our international market because it accounts for a large percentage of our sales. I don't know where your conclusion comes from, but it's just wrong."

Apple is focused on iPod sales instead of playing in the price-driven entry-level computer market, said executive vice president of worldwide sales and operations Tim Cook. "We decided as a company that instead of going into the low-end desktop market, we would invest in the iPod business. If you look at the marketshare on the iPod, it's enormous," he said.

Asked about delays in product shipments, Jobs said: "Sometimes it's better to announce a product before it can ship in a timely manner. On occasion we have large events where we are going to get lots of press, but the product isn't ready. Oftentimes, it's better to announce it, get the press and ship it a month or two later – hopefully not too much later."

He added: "Engineering isn't just a science, it's an art. Sometimes art happens on a schedule and sometimes it doesn't. Part of what you pay us for is to optimize the decisions as best as we know how, when the world isn't perfect."

Of marketshare, Jobs said: "We have 25 million loyal customers. Our number-one concern is that they are happy. Number-two is growing that number of customers, and the third thing is marketshare". MW

Mate in game

The PictureMate is a new photo printer from Epson that enables the printing of photos from a digital camera or a camera-enabled mobile phone. It offers six-colour, 2.5-picolitre printing, at up to 5,760dpi.

Photos can be cropped and borders added. Users can print proof sheets, borderless 10-x-15cm photos, and wallet-sized photos directly via the printer with no need for a Mac. It's also possible to print photos in black-&-white and sepia.

The PictureMate supports most memory-card formats. It's also possible to backup photos to an integrated memory card or through an external connection to CD-R or Zip drives. As well as printing from PictBridge-compatible cameras, the PictureMate prints photos from Nokia 7650, 3650, 3660 and 6600 mobile phones via Bluetooth. The printer goes on sale in June, and costs £149. It has a one-year warranty.

Epson is offering the PictureMate PicturePack containing a PictureMate photocartridge and PictureMate photo paper to print approximately 100 10-x-15cm photos. It costs £28.

0800 220 546

Paper Mate

Epson claims its new PictureMate allows digital-camera owners to print long-lasting, lab-quality 4-x-6-inch photos at home at a cost "comparable to some of the most affordable lab print prices".

Sanyo extends Xacti range

The VPC-J4 EX is the latest addition to Sanyo's Xacti range of digital cameras. The J4 features 4.2 megapixels, a 2.8x optical zoom, a 1.8-inch TFT LCD monitor, and is capable of capturing VGA (640-x-480) video at 30fps with sound. The camera menu includes colour LED assistance and voice guidance. Menu settings include sports, portrait, landscape or soft focus, and an image-in-image feature that allows insertion of one image into another. The camera is also able to take macro shots from 2cm, and features LED illumination to enable low-light photography, says the company.

The J4 measures 101-x-46-x-26mm, and weighs 128g. It's available in silver, black and bronze, and connects via USB 2.0, and uses Secure Digital (SD) as a storage medium. It costs £300. 01923 246 363

Photo finish for Canon

Canon has introduced two new compact photo printers – the CP-220 and CP-330. Both will work with any PictBridge-compatible camera, and, Canon claims, can produce borderless 300-x-300dpi colour photo-prints within 85 seconds. The CP-330 is battery powered, and Canon claims its rechargeable Lithium-Ion battery pack delivers up to 90 minutes of use, and that it's possible to print 36 postcard size prints on a full charge. A £69 car power adaptor is available for both printers. The printers sport a 4-x-6-inch paper tray. A credit-card-sized tray is available as an accessory. The CP-220 and CP-330 cost £149 and £199 respectively.

08705 143 723

What's cooking?

Computer Cuisine Deluxe is a home-recipe database solution from Inaka Software that allows users to add, view, sort, find and print recipes, as well as add photos. The interface has been redesigned to include areas for notes, photos and nutritional information. It comes with 1,000 recipes, and costs $19.

www.inakasoftware.com

Mariner pushes boat out

Word-processing application Mariner Write 3 adds a hierarchical font menu, page numbering and text colour. It includes a number of bug fixes. Mariner Write is able to read Word documents, features headers and footers, includes mail-merge functions, and an automatic spell-checker. It costs $69.

www.marinersoftware.com

iMovie time saver

PluginPal from BKMS is a new iMovie utility for organizing transitions, effects, and titles. PluginPal shows only those effects, titles, or transitions that are required for a current project, "making it easier to find the effect you want". It costs $19.

www.bkms.com

Software sleuth ships

QualityMac has released SoftwareWatch 1.0 – an update to its free software-tracking application for the Mac. It sports a similar graphical user-interface to Apple's Software Update, and uses the SIF (software information format) to track software. Users add the URL associated with a piece of software into the SIF feed and SoftwareWatch automatically tracks all updates.

www.qualitymac.com

Causing a Splash

SplashData 3.0 securely maintains personal identification information including passwords, credit-card numbers, bank-account data and PINs on a Palm PDA or desktop computer. The update offers new features for simplifying data security on PDAs, and offers new customizability. It costs $29.

www.splashdata.com

continues page 40

Strips ease

Spiny Software says Comictastic – a program that downloads and aggregates comic strips from the Web – will "inject your life with fresh humour-infused morsels". Version 2.2 enables users to group comics by category and customize the font size of the main comic list. It also adds scroll-wheel support, and transmits a HTTP user-agent string when downloading files. It is shareware, and costs $15.
www.comictastic.com

iPod protection

STM's iPod Cocoon offers two layers of protection. A hard outer shell encloses the iPod, while a clear plastic skin is custom-fitted to the third-generation iPod. The skin allows access to buttons and ports, and attaches with velcro. The cocoon features an ear-bud pocket, a belt clip and a neck cord. It costs £23.
AM Micro: 01392 426 473

Herculean feat

The Hercules 16/12 FW is a FireWire 24-bit 96KHz 16-In/12-Out audio and MIDI interface for Mac and PC. It offers 16 independent inputs and 12 independent output ports for simultaneous multitrack recording via FireWire, an external FireWire audio interface mountable in a standard 1U/19-inch rack unit, 24-bit 96KHz audio sampling, and two mic/instrument pre-amplifiers with switchable 48-volt phantom power via Neutrik combo (XLR/TRS) connectors. It costs £465.
Etcetera 0870 873 8731

iPod car cradle bonus

Disruptive Technology Channels has launched the PodGear CarDock – an in-car cradle and charger for the iPod. It offers cable-free charging through an easy to access dock. It costs £34.
01494 522 721

Six go Native

Native Instruments has introduced six Mac OS X-compatible products. The first, **FM7 Sounds Volume 2**, assembles 256 new presets for Native Instruments' FM7 software synthesizer. The collection features lead sounds, bass, organ, electric piano, pads, atmosphere, effects, and percussion. It costs £39.

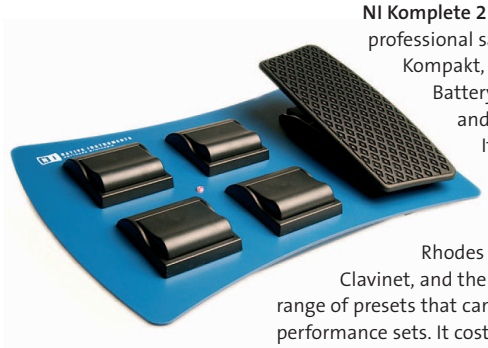
The **B4D drawbar controller** connects to a Mac via MIDI, and enables control of Native Instruments' B4 organ software, that emulates the B3-tone wheel organ. The B4D controller offers nine mechanical drawbars, two rotary knobs, and 22 buttons. It will be available in June for £329.

The company is also offering a bundle containing the B4D controller, the B4 software, and the Vintage Collection tone wheel set for £399.

Xpress Keyboards features three software keyboards for £79. The B4 Xpress reproduces the classic tone-wheel organ, complete with rotary speaker effect. The Pro-53 Xpress emulates an analogue synthesizer. The FM7 Xpress reproduces the sound of 1980s synthesizers.

The B4 Xpress keyboard

NI Komplete 2 offers 11 applications: the sound design studio Reaktor 4; professional sampler Kontakt 1.5; synthesizer Absynth 2; FM7; B4; PRO-53; Kompakt, with over 200 sampled instruments; loop sampler Intakt; Battery, packed with drum samples; vocoding tool Vokator; and NI-Spektral Delay, which provides delay effects. It ships in June for £799.



The Guitar Rig foot controller

Elektrik Piano is a software instrument that reproduces four electric pianos: the Fender Rhodes MK I and MK II, the Hohner Clavinet, and the Wurlitzer. Each features a broad range of presets that can be combined into individual performance sets. It costs £149.

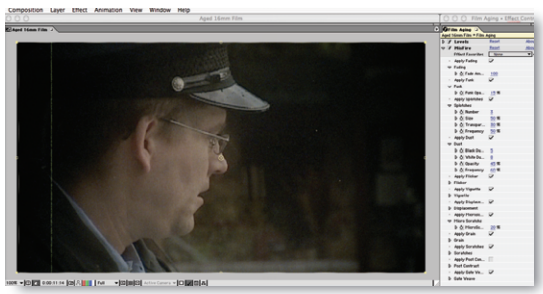
Finally, **Guitar Rig** is aimed at guitarists and music producers. It comes with a foot controller, as well as a software package that features classic and modern guitar, cabinets, microphones, and effects. It will be available in June for £349.

Arbiter: 020 8970 1909

Video takes Giant stride

Red Giant Software has announced three applications. **Magic Bullet** brings Look Suite to Final Cut Pro, allowing users to add film treatments on the editing timeline. It delivers film-stock emulation, a diffusion filter, 50 presets, and is optimized for G4 and G5 systems. **Misfire** is a film-damage creation tool that recreates grain, splotches, and scratches, as well as projection artifacts such as flicker and gate weave. It works with both 8- and 16-bit-per-channel footage. Magic Bullet with Misfire costs £205. Misfire can be bought separately for £95.

Damage controlled
Misfire gives control over adding film-damage effects



Primatte Keyer for Avid AVX can now use a mouse to sample foreground and background areas, eliminate spill, and correct imprecise edges and transparency directly in the sequence window. It costs £295.

02879 632 614

GarageBand samples strike a chord

PowerFX has released Apple Loops Disc Jams, a CD of sample libraries optimized for Apple's GarageBand and Soundtrack. They include: Electro Clashmatic – vocoder and electro beats, synths and basses; Nu Jazz House – 70s-style jazz; Invincible Dance – club music samples; Rock and Pop Trio – acoustic drums, electric bass, and guitar riffs; Street Stylin – R&B and Hip Hop; and Session Percussion – loops of congas, bongos and bells. Each CD costs £29. **Time+Space: 01837 552 00**

Galaxy of pics

The Plugin Site has released Photo Galaxy 2300 – a collection of 950 royalty-free digital photos in 118 categories. The photos consist of photo textures, with categories including: Cactus, Canvas, Clouds, Coffee, Fire, Fireworks, Gems, Ice crystals, Leather, Lights, Marble, Metal, Plastic, Sparks and Sunflower. Photo Galaxy claims to offer a wide range of high-resolution photos on a royalty-free basis. The Photo Galaxy CD is available for £24, and can be purchased online.

www.thepluginsite.com

Group therapy

Kyocera has launched a new range of workgroup printers. The Ecosys FS-1920, FS-3820N and FS-3830N are 1,200dpi mono laser printers. The **1920** offers 28 page-per-minute (ppm) printing and 32MB RAM. Kyocera claims a per-page-consumables cost of 0.4 pence.

The **FS-3820** prints 28 pages per minute and offers 64MB memory. The **3830N** (right) prints 33ppm and features 96MB memory.

The claimed consumables cost-per-page for both is 0.33 pence. Both printers are network-ready.

All three printers have a 2,100-sheet capacity, and a range of enhancement options including envelope feeders. They also feature integrated accounting software so codes can be allocated to different user groups and costs attributed accordingly.

The FS-1920 (left) costs £500, the FS-3820N is £770, and the FS-3830N is £900.

0118 931 1500

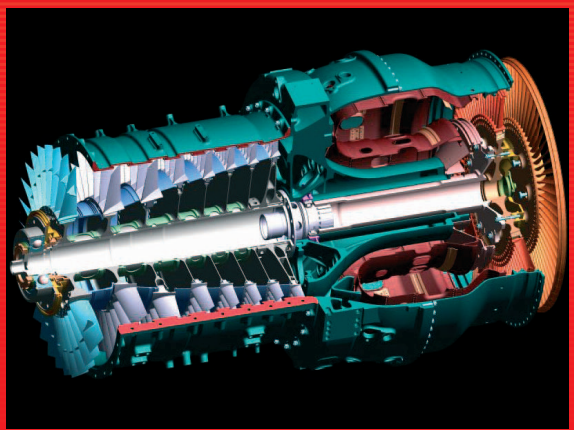
Parasolid model of OS X success

UGS PLM Solutions has bought its Parasolid geometric modelling software to the Mac. Parasolid 16.0 provides a geometric modelling foundation for computer-aided design, manufacturing and engineering analysis (CAD/CAM/CAE) applications. Parasolid enables users to mathematically model objects from simple blocks, cylinders and spheres to the contours of a objects such as a car. It supports solid modelling, generalized cellular modelling and integrated freeform surface/sheet modelling.

Parasolid is used within UGS PLM's products, and is licensed to other CAD/CAM/CAE vendors.

According to Parasolid over 40 per cent of the world's 3D CAD data is based on Parasolid's open-data format.

www.eds.com



NURBS of steel

Amapi 7 Pro is Eovia's 3D modelling tool. It features drafting, conception and engineering-compliance, and handles both NURBS (Non-Uniform Rational B Spline) and polyhedral high-level models. New features include OpenGL and real-time 3D display engines, a new interface, a Manifold Volume Construction Tool for creating 3D hulls, NURBS Filleting, and a Connecting Surface tool. It costs £633.

Jigsaw: 0115 916 55 66

Duo just the ticket

Apago has updated Piktor and PDF Enhancer to include support for JDF (Job Definition Format) job tickets. A JDF job ticket contains all the options needed to process a print file, and is an XML-based, proposed industry-standard file format. Piktor 4 costs £4,395.

Version 3 of Apago's PDF Enhancer PDF assembly and repurposing software allows users to embed or modify JDF job tickets, stored as XML inside a PDF file. It costs £2,750.

www.apago.com

InDesign plug-in

MadeToPrint from Callas Software is a plug-in for Adobe InDesign CS that streamlines print output and file conversion. MadeToPrint supports single-page PostScript and PDF output, and offers flexible naming for EPS, PDF and PostScript files. It costs $349 per licence.

www.callassoftware.com

Render bender

TurboCAD Professional 10 includes a new version of LightWork Design's rendering engine to enhance photorealistic rendering capabilities, says LightWork. The addition of the new engine also enables faster rendering performance, it is claimed. New features include NURBS-based objects, including deformable modelling; creation of solids from surfaces and surfaces from solids; Axis scaling of ACIS objects; improved STEP import/export filter; improved IGES filter. It costs £448.

MediaGold International: 0207 221 4600

continues page 42

Kids are in Kahootz

The Australian Children's Television Foundation has produced an educational CD aimed at children aged between seven and fifteen.

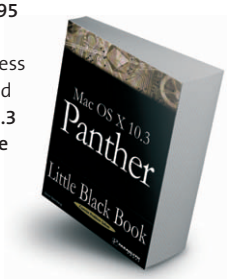
Kahootz is a virtual 3D world where children can write stories, simulate experiments, construct inventions, build animations, and develop games and puzzles. Children can practice literacy skills and improve language skills.

Pupils share their creations online, and communicate through a chat-room. Kahootz files can be saved as 40K files, enabling students to share work easily.

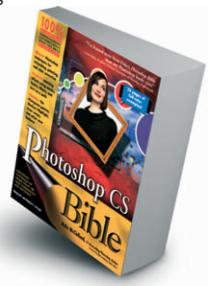
It costs £35 for a single licence home pack. A single licence school pack is £70.
www.kahootz.com

Read all about it: new books

Dreamweaver MX 2004 The Missing Manual has been published by O'Reilly. Dreamweaver's features are examined through step-by-step tutorials, and readers follow the construction of a commercial Web site, complete with Flash buttons, Cascading Style Sheets, and dynamic databases.
ISBN: 0596006314 £24.95



Paraglyph Press has published **Mac OS X 10.3 Panther Little Black Book**. The new edition covers how to deal with viruses and security, how to manage fonts, and how to use Apple Script features to automate tasks.
ISBN: 1932111867 £20.99



The Photoshop CS Bible from Wiley has been updated to cover Photoshop CS. Content examines image-editing basics, working with the improved File Browser, Lens Blur, Match Colour, colour replacement, and working in Camera RAW.
ISBN: 0764541781 £27.95

Dr. Mac: the OS X Files has been updated to include Panther content. It includes coverage of Unix, covering elements such as Terminal and shell command-line editing shortcuts.
ISBN: 0764540688 £24.50

Specialist Computing's **Dictionary and Thesaurus of Computer Jargon** is a reference book including 1,200 words and phrases of jargon – but neither Apple nor the Mac is mentioned!
ISBN: 0954618602 £9.97

Break the ice

Alamy has added to its stock of royalty-free images, with the company signing specialist contributors for categories including: lifestyles/people; concepts; business; landscapes & nature; travel; science, technology & research; and architecture, homes & interiors.

Features offered by Alamy include an Easy Download tool for high-resolution images for certain licensed image users, and an interpolation service to enable an image's resolution to be increased without impacting its quality, the company claims. Pricing is dependent on image use.
www.alamy.com

Runtime Revolution 2.2

Runtime Revolution 2.2 is now available. The latest release of the development environment offers builder and interface enhancements.

The database-linked controls have also been improved, and additions have been made to the Transcript programming language, says Runtime.

The company also claims to offer enhanced performance and stability for the engine and developer environment.

The application costs $299, and there is an Enterprise edition available for $899.
0131 718 4333

Apple updates

QuickTime 6.5.1 for Mac OS X 10.2.6 and above includes Apple Lossless Encoder codec for full-quality uncompressed CD audio in half the storage space, improvements to AAC encoding, and enhanced support for iTunes and other QuickTime applications.

New software for **iPod** and **iPod minis** offers support for features in iTunes 4.5. The update "improves playback performance" of early-generation iPods, and adds support for Apple's new lossless encoder. Mac OS X 10.1.5 or higher is required.

iMovie 4.0.1 offers improved performance when working with large projects, increased reliability, and a number of fixes.

Final Cut Express 2.0.3 fixes an issue with some cameras caused by conflicts between timecode breaks and dropped frames, and improves QuickTime movie export.

The 5.1 update to Lemke's **GraphicConverter** – a tool for batch-converting image file-types – offers improved compatibility with Photoshop plug-ins, extra options for downloads from digital cameras, a glass-blocks effect and bug fixes.

Third-party updates

Fire – the free open-source instant messenger client for Mac OS X – has been updated. Two versions are available – for Mac OS X 10.1 and 10.2 or later. It can handle simultaneous connections to AIM, ICQ, IRC, Jabber, MSN, and Yahoo! Messenger.

LaCie UpdateTool 1.1.2 adds support for its new Triple Interface and Big Disk Extreme products. UpdateTool now automatically recognises the type of LaCie product.

ATI has released **Radeon Display Utilities 4.2**. It contains drivers for the Radeon 9800, 9000, 8500, and 7000 and the Radeon Mac edition.

Bluetooth Firmware Updater 1.1 is designed to update the internal firmware on D-Link USB Adaptors (revision B2 or later) and Apple internal Bluetooth modules on PowerBooks and Power Macs.

continues page 44

BBEdit updated

Bare Bones Software has released BBEdit 7.1.3, which adds interface enhancements to the HTML-and-text editor for the Mac. BBEdit features include grep-pattern matching, search-&-replace across multiple files, FTP and SFTP open and save, AppleScript, Perl and Mac OS X Unix scripting support, glossary support, and a complete set of HTML tools.
www.barebones.com

Domain of the game

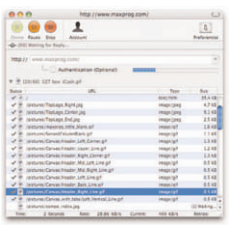
iTools 7.3 offers secure, domain-specific remote Apache administration. Webmasters can set-up unlimited Web sites on Mac OS X and allow each client to administer their own domain. 7.3 offers tools for setting up community discussion boards and displaying photos on the Web, creating a blog, and creating Web portals for companies to share information, all within a browser environment. Another enhancement includes optional encryption during browser-based configuration sessions. It costs $349.
www.tenon.com

FireWire upgrade card

The Alchemy FW 800 CB laptop expansion card from Miglia Technology enables older laptops to be upgraded to use FireWire 800 and 400 devices. It plugs in through a PC card slot and features two 9-pin ports for FireWire 800 and a single 6-pin old-style port for FireWire 400 peripherals. It costs £69.
0870 747 2998

Dumper download

Maxprog has updated Web Dumper, its tool that allows users to download Web sites for offline browsing. As well as being OS X-compatible, version 2.0 offers a standard toolbar, a pause and resume function, cookie handling, and a redesigned interface. The company claims that downloads are now six times faster. It costs $16.
www.maxprog.com

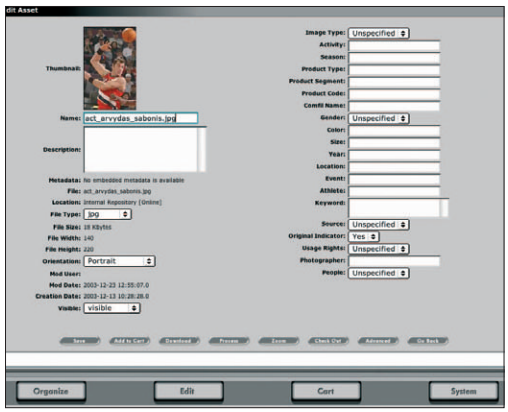


Hexafoo serves, protects

NetXposure's Hexafoo is an entry-level digital asset-management solution distributed in the UK by Reaction Media Solutions. It enables companies to store, organize and distribute valuable corporate assets from a centralized, Web-based repository.

Features include metadata support, an advanced search engine, and the InCaddy plug-in for InDesign, enabling import and export of assets. Batch loading is available for faster delivery of multiple files.

Image Portal X for Mac OS X also adds functionality from the Adobe InDesign plug-in InCaddy. It streamlines enterprise-wide digital-asset usage.



Middle Ages spread
Hexafoo is a Middle Ages term meaning a group of symbolic images that represent and protect a bearer's goods. NetXposure claims Hexafoo does the same, because as it safeguards corporate digital assets needed for branding and production.

Image Portal X is built on NetXposure's Exogen Application Framework to create a Web-based content management solution. New features include LDAP support to link a company's contacts database with Image Portal's permission-based access control features and the Web Services ability, which enables communication with external systems to speed the sharing of critical files.

Hexafoo is available to unlimited users for £3,533 per CPU, and is available to anyone with a Web-browser. The full package price for a new licence is £10,607 per CPU.
Reaction Group: 01202 657 174

FileMaker tables set

.com Solutions has updated FmPro Migrator 1.86 Enterprise Edition with a FileMaker to FileMaker 7 table consolidation feature that works with both FileMaker Pro 7 and FileMaker Developer 7 databases. The company claims consolidating multiple database-files into a single FileMaker 7 database file enables developers to utilize the new FileMaker 7 security model. This in turn enables FileMaker solutions to be developed in less time and with better security. It costs £38.

The company has also released a FileMaker 7 AppleScript Reference Guide, providing a quick reference for commonly used FileMaker 6 and FileMaker 7 AppleScript code examples. It is a free download from www.fmpromigrator.com.
Roche GB: 0845 0500 897

Botany at bay

Photolibrary has launched a collection of images called Botanica. This is a rights-managed collection that "explores the ways in which nature influences our everyday lives," according to Photolibrary.
It includes botanical imagery and lifestyle vignettes and concepts.

Photolibrary boasts a collection of 250,000 high-resolution images from 50 international sources. Images can be licensed online and the site has both rights protected and royalty free images. Prices start from £75.
www.photolibrary.com

Script ease

Troi Automatisering has released Activator Plug-in 1.4, offering compatibility with FileMaker 7 and 6. The Plug-in is a tool for triggering scripts across a network or the Internet. From within FileMaker it's possible to trigger a script on a different client computer, trigger a script over the Internet, and run a script and send data to a different FileMaker application. Built-in security prevents unauthorized triggering. It's also possible to schedule events that trigger scripts at a specified date and time.
A single user licence is £57.
www.troi.com

It's easy to go from 'that guy who knows a bit about Macs' to being The Mac Guy – and if you've made the leap, we salute you.

The Mac Guy

I'm writing this from Sturgeon Bay, Door County, Wisconsin. I don't think I'd be offending anybody around here if I suggested that it isn't exactly the hub of the universe. In fact, it's a peninsular that sticks into the top-left corner of Lake Michigan, which means it's not on the way anywhere. But even around here there are Macs, and where there are Macs, that means there is a Mac Guy.

In this case it's Bill Skadden, or Mr Skadden to his ex-pupils. Mr Skadden was once a teacher at the local high school – he taught my wife, in fact. But since what might have been his retirement he has been helping people in Door County get to grips with their Macs. I don't know how it happened, but I can guess. The road to being The Mac Guy is well trodden, and the route familiar.

David Pogue once told me that he knew when to start charging for his expertise when his sister's yoga instructor's mum called him for technical help. Once you get to three degrees of separation, it's time to talk cash.

I've seen Macs in a few places in Sturgeon Bay. The local optician runs on a Mac system, and the place I'm sitting in right now, Kick Coffee, has a couple of eMacs. I know Bill was responsible for the Kick Coffee Macs – I suspect he had a hand in the other Macs I've seen around, too. You see, there are few other choices available to residents of places like Door County. The nearest Apple Store is in Milwaukee, and that's three hours drive away. There may be closer Apple retailers in Green Bay, but that's still over 40 miles away. So the marketing of Apple products is very much a matter of word of mouth, and expertise comes from knowing people like Bill Skadden.

I spent some time in the States when I first got into Macs. I lived in a city called Kenosha in south eastern Wisconsin, a cultural wilderness between Chicago and Milwaukee. There was a local Mac guy there called Nathan Ivanov who taught me everything there was to know about Macs in 1989. Unfortunately Nathan never quite got the hang of charging for his expertise before he passed away in the early 1990s. But while he was around there were plenty of lucky recipients of his wisdom in south eastern Wisconsin. I wonder who has taken up the mantle?

When I moved back to the UK I had a spell doing technical support at MacWarehouse. When they moved out of London I decided to become what I grandly described as a 'consultant'. Actually, a more accurate description would have been that I became The Mac Guy for various designers and, oddly, a lot of German architectural students. Anyway, there's always work for a Mac Guy that knows his stuff.

As far as I can tell, most of the leading writers on the Mac have been The Mac Guy at some point in their careers. David Pogue was a Broadway conductor before becoming a Mac guru. Bob Levitus was an account executive for an ad agency before turning professional Mac Guy. Jim Heid was a typesetter – from so far back they actually still had typesetters! – before the Mac Guy mantle was thrust upon him. I'm sure that there's a new generation of Mac Guys in the pipeline, probably lending their sister's yoga instructor's mum a hand as we speak.

You may have noticed that so far I have been talking about Mac Guys and, nothing about Mac Gals. I promise it isn't any policy of exclusion, but I have yet to come across more than a couple of women in the really techie end of the Mac market – lots of trainers, but not screwdriver-wielding techies. There are plenty of women that use Macs; many are very competent technically, including my wife. But for some reason women don't seem so fascinated by the minutiæ of the Mac as men do. It isn't a lack of capability – maybe it's just they have better things to do.

I hope it isn't that men feel inadequate at having to call a woman to fix their Macs, but it wouldn't surprise me. Although when I once called the AA man to fix my car, I was surprised and delighted to have an AA woman come and do the job for me. There was something reassuring to know that she deals with spanner-phobic men all day long and that she might be more understanding of my inadequacies in the engine department. I can't help thinking male mechanics are more likely to be disappointed at me letting down our reputation for mechanical machismo.

Later this year Apple will open an Apple Store in London's Regent Street. It will feature the famous Genius Bar: Mac Guys on tap. This may offer a chance for budding gurus to start their illustrious careers. But I don't think the Genius Bar will threaten the livelihood of The Mac Guy just yet. You can't call the Genius Bar in tears because you've lost all your fonts and have them come out at midnight to help you finish a project. That kind of thing would happen to me on a semi-regular basis when I was a Mac Guy.

The calling, I think, is a noble one. It really *is* a calling, too – it just seems to happen rather than it being an aim or career move. If you're reasonably au fait with Macs and you have the kind of sunny disposition that makes people feel they can approach you to do them favours, it's almost inevitable. But don't forget David Pogue's rule of three degrees of separation – it's easy to get taken advantage of. But to the Bill Skaddens and Nathan Ivanovs of this world: I salute you. All those Mac techies that prop up our market in the places Apple doesn't seem to reach are as important as any iPod campaign. Three cheers and hats off to the Mac Guys. MW

'There was something reassuring to know that the AA woman deals with spanner-phobic men all day long, and that she might be more understanding of my inadequacies in the engine department.'

Apple has done so well with its roll-out of the iPod and iTunes that it should branch out – how about poetry?

Well versed iPod

Noted media-analyst Marshall McLuhan once said that light is information without a message. I could probably argue that in a poetic sense, but considering how much *darkness* without a message is about these days, there's probably not much point. Put it down to cognitive dissonance, occult static or just background noise. But there are a lot of reality tunnels out there that need some serious re-tuning – and fast.

By now, Apple should have released the iPod mini to the rest of the world. The message, with or without light, seems to be that it will add further momentum to the iPod, which is already the world's leading digital-music player. The iPod mini, of course, is the world's smallest portable music player to hold up to 1,000 CD-quality songs. It's encased in an ultra-portable, lightweight anodized aluminium body, is available in five colours, and features the click-wheel for effortless one-handed operation, along with the same award-winning user interface as the rest of the iPod family. According to Apple, it works effortlessly with iTunes, the world's number-one digital-music service, and should contribute substantially to next year's profits. Or will it?

So far, the iPod mini hasn't quite had the same positive impact as the original iPod, and quite a few owners have complained about the habitually crackling sound quality. According to some disgruntled music lovers this new, smaller, cheaper version of the original cash cow has a tendency to distort tunes and simply stop mid-song. It also seems to have a knack for making a horrible static noise after just a few short weeks use. The crackling or static has been compared to the noise of bad radio reception. According to some reports sometimes the sound will just disappear completely. Apple has admitted that some owners have suffered from a few problems, but so far the only aid on offer is the help-line.

OK... most new kit comes complete with teething problems and the occasional glitch. But considering that Apple has made such a huge impact with iTunes and has sold over a million original iPods since 2001, it isn't in anyone's interest to release a new, less-satisfactory product into the same market. In this case, the medium is definitely the message, and considering the fact that Microsoft and various other players would desperately like to grab this market, sending the wrong one could have a particularly serious impact on those previously mentioned profits.

Apple has always been good at concepts, though not always quite so good with implementations. But the iPod, and particularly iTunes, have been both terrific concepts and brilliant implementations. iTunes has done amazing things for musicians, and has given the music industry as a whole a much-needed disruptive shake. When you can have the music you want, when you want it and at a particularly reasonable price, then chances are you'll be less susceptible to the twisted machinations of the manufactured record industry. In the long term, it would be nice to think that artists wouldn't even have to have a record company affiliation in order to sell their work on iTunes, and that eventually most music buyers would choose music simply because they liked the tune rather than the fact that it was in some chart, had an expensive video, or was being force-fed through some other sort of immature, consensual media madness.

Which is why I started thinking that maybe Apple should continue to Think Different and expand the whole concept. For example, if iTunes works so well, why not set up an iPoem site? Considering how little most people know about contemporary poetry and how difficult it is to find any in high-street bookshops, why not provide a way for people to buy poems they like for a similar price as a song on iTunes, instead of whole collections or anthologies? Poetry books have traditionally been published by smaller presses and many poets get published only in relatively small print-runs. Distribution is also problematic. With an iPoem site, you could browse various poems and download your favourites. Poems could come from existing publishers, little magazines, or perhaps even from audio magazines of poets reading their own work recorded at poetry events.

Yes, I know that poetry in text formats would be easy to copy without actually purchasing. But then again, poetry's never really had a lot of problems with piracy – apart from TS Eliot's observation that immature poets are influenced, while mature poets steal. I'm sure there'd be a lot of co-operation from small presses and few larger publishers. There's no reason why even the classical poets shouldn't have work up on such a site. I'm sure a lot of GCSE and even A-level students would be interested in downloading the particular poems they need for a course rather than necessarily having to buy a book or anthology. No, I'm not trying to discourage anyone from buying a book. But who knows – if someone has to download a few poems for a course and discovers a few more that they actually like, well, then maybe they'll download some more or perhaps even go out and try to buy a whole book. And why stop at poetry? How about an iComic site where you could download all the best Bill Hicks routines?

Despite all the crackle and static, poetry can often be both light and information. And the best of it can often even manage to alleviate some of the darkness. But even poetry requires a degree of choice and discretion, and an iPoem site could expand on that. As TS Eliot once said, "Never commit yourself to a cheese without having first examined it". MW

'It would be nice to think that artists wouldn't have to have record-company affiliation to sell their work on iTunes, and that buyers would choose music because they liked it, rather than the fact that it was force-fed through some sort of immature media madness.'

High-end 3D tool

Maya 6.0 Complete Preview

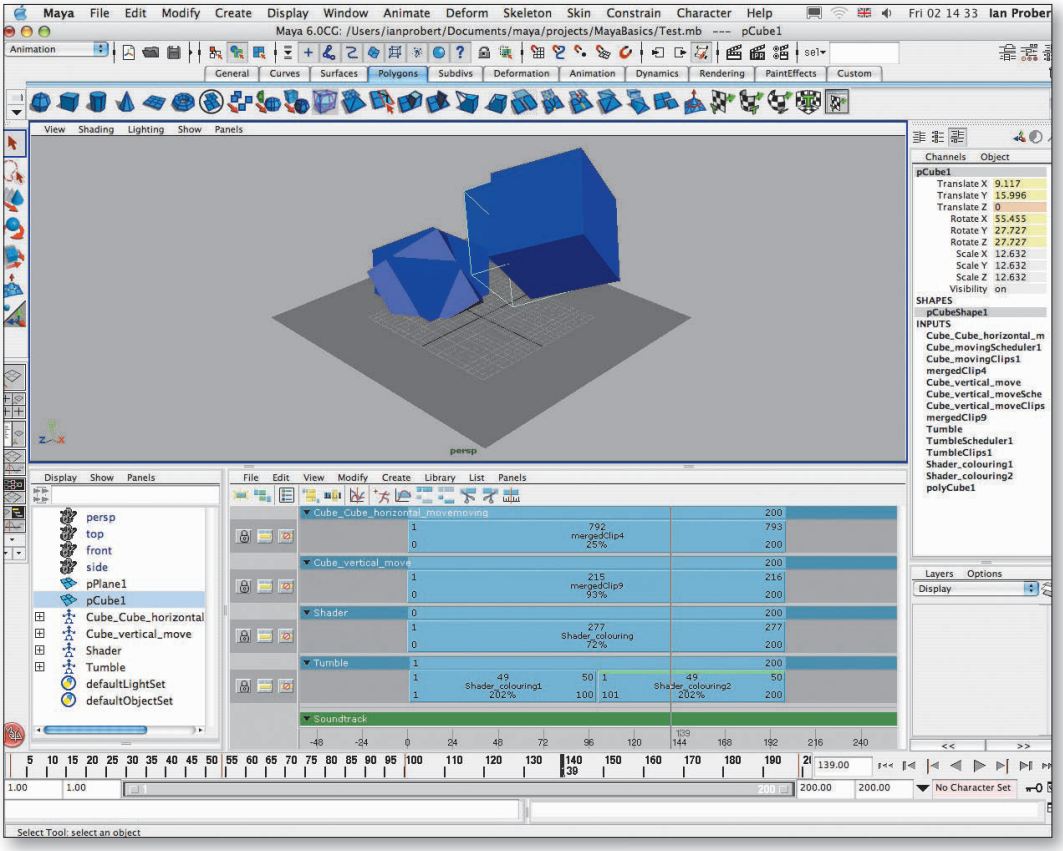
Publisher: Alias www.alias.com 01494 441 273

Pros: Faster rendering; image-based lighting; Photoshop integration.

Cons: Still no sign of Maya Unlimited for the Mac.

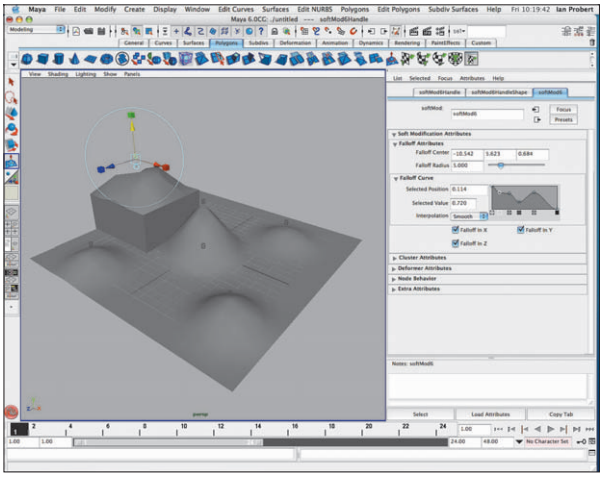
Min specs: G4; OS X; 512MB RAM; OpenGL graphics card; 450MB hard-drive space.

Price: £1,449; upgrade, £659. Prices exclude VAT.



It's been almost a year since the last major upgrade to Alias's flagship 3D modelling and animation tool Maya, and the company has been working hard on version 6.0.

The software comes with a raft of features designed to increase productivity while countering the very real threat posed by the likes of rivals such as Maxon Cinema 4D, Form•Z and NewTek LightWave.



Another fine mesh

The Soft Modification And Deformer tool allows you to manipulate meshes with custom control of falloff.

We had a week to put a pre-launch version of the forthcoming version through its paces. Apart from a few rough edges, the program proved to be remarkably stable and obviously very close to completion. As well as general improvements to the interface and workflow, there are also new tools and features that greatly extend Maya's capabilities.

At first glance the program looks pretty much as it did in version 5.0. Indeed, even power users may have a little difficulty spotting the differences between the new and old versions. But differences there are – some major, some minor and many nestling away within the dark recesses of the hundreds of menus and sub-menus that can sometimes make your computer screen resemble the cockpit of a Boeing 747.

Among the more notable new features is the Soft Modification And Deformer Tool. Alias obviously believes that you're going to be using this tool a great deal, as it's been positioned directly beneath the Scale Tool in the Toolbox. This new feature combines selection with manipulation, letting users move, scale and rotate a selected point in a mesh with customizable falloff. This works in a similar way to the Sculpt Polygons Tool – treating an object as a flexible piece of clay. Using the Soft Modification And Deformer Tool you could, for example, intuitively create landscapes from simple polygon planes, which can be keyframed as you work.

Clip joint

You can now organize all characters clips from within the improved Trax Editor – a feature that should have been in earlier versions.

Animation editing

Another important improvement to the Maya interface is the Trax Editor – which lets users work with scaleable animation clips – was invaluable in version 5.0, though its interface clearly needed a rethink. Irritations such as having to manipulate clip values in the Channel Box, select characters from the Current Character Set list, and navigate through track hierarchies using the Trax Outliner are a thing of the past in Maya 6.0.

All of these can now be done in the Trax Editor, as well as other features such as motion retargeting and motion redirection; organizing all clips for characters in one easy step; locking, muting and soloing tracks; and cycling, holding, trimming and scaling clips interactively.

Equally powerful for animators is the Motion Retargeting feature. This lets you transfer animation data between skeletons

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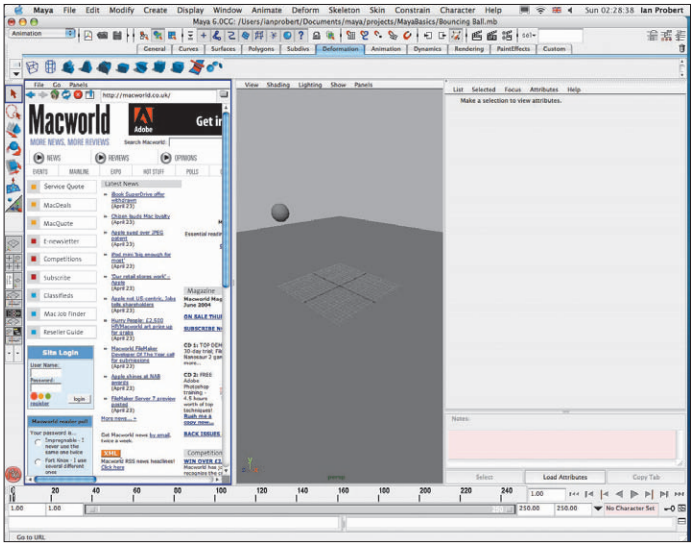
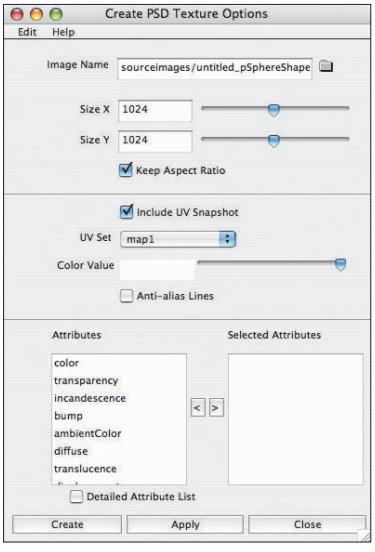


Caught in the Net
Maya now includes an in-built Web browser available in any scene window.



Textural experience
In Maya 6.0 you can export textures in native Photoshop PSD format.

as joint rotations. Users can, for example, now adapt motion capture data for use with different characters. Also new to Maya 6.0 is Motion Redirection – this allows you to change the direction of animation data.

In other words, data such as motion-capture of a character walking in a straight line can be easily edited to have him turning corners.

Nips and tucks

These are just a few of the more noticeable improvements coming to Maya, but there are dozens of others designed to persuade you to upgrade. These include:

Adobe Photoshop integration Textures can now be exported to native .PSD format from the Hypershade panel or Texturing menu and then reimported after editing in Photoshop.

Hypershade enhancements New to Maya 6.0 is sorting bins in the Hypershade panel. These let you organize render nodes for individual scenes for greater streamlining of workflow.

Improved Paint Effects Paint Effects can now be applied to polygon objects as well as NURBS surfaces.

File Referencing This feature has been greatly improved, allowing artists to control which reference to load in the referencing hierarchy, thereby reducing load times for large files.

Dynamics In Maya 6.0, almost every type of deformer can now be applied to particle emitters. These can be interactively reshaped to allow greater control over particle flow.

Web Browser Maya now includes a built-in Web browser. This allows easy access to Maya's help files, but can also be used to surf.

Scroll-wheel Support If you have a three-button mouse, you can now use the scroll wheel to zoom in and out of windows. Also new is support for one- and two-button mice.

Smooth proxy This tool has been overhauled, offering up to 18x speed improvement. Subdivision proxy manipulations are up to eight times faster than in Maya 5.0.

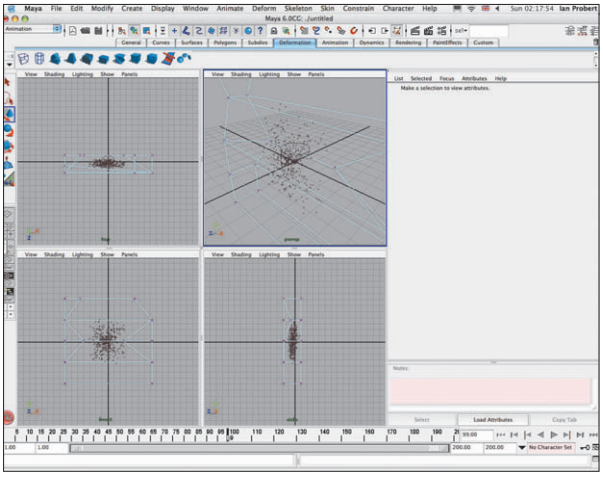
Mirror Cut This new tool creates a plane of symmetry that mirrors a selected object. Changes made to the object are then updated on the mirrored object. This is ideal for creating certain types of object such as environments with streets.

Interactive High Quality Rendering It is now possible to see high-quality representations in the scene views while working on a model.

Image Based Lighting This new feature, found in the Mental Ray Render Settings pane, automatically creates an infinite cube or sphere that surrounds a scene and enables virtual lighting from an imported image.

Rendering speed increases Maya 6 for OS X has been converted to a Mach-O application. This enables developers to create plug-ins using Apple's own developer tools. Alias also claim that rendering times have been reduced by 20 to 50 per cent.

Improved support for other file types Maya 6 offers enhanced support for a number of popular image file types. These include multi-platform support for Studio and OpenFlight, as well as support for AutoCAD 2004 DWG files and improved IGES integration.



Particle science
Almost any kind of deformer can be applied to emitters for more precise control of particle effects.

Macworld's perview verdict

To list all of the improvements is beyond the scope of this preview. Maya 6.0 is a significant upgrade that provides a multitude of new features and interface enhancements. Maya artists are going to need to spend a lot of time acclimatizing themselves to everything that the developers at Alias have added.

At this stage, there are surprisingly few negatives to dwell on. One big minus, however, is the ongoing exclusion of hair- and cloth-creation tools – both of which are available only in Maya Unlimited, currently only available for IRIX, Linux and Windows-based platforms.

Ian Probert

Macworld reviews digital-still cameras

Company	Nikon	Panasonic	HP	Minolta	Olympus
Model	Coolpix 3700	Lumix DMC-FZ10	Photosmart 945	Dimage A1	C-5060 Wide Zoom
Rating	★★★★/8.0	★★★★/8.8	★★★★/7.8	★★★★/8.9	★★★★★/9.2
Resolution (megapixels) [A]	3.2	4.0	5.0	5.0	5.0
Price (including VAT) [B]	£229	£449	£399	£650	£499
Zoom (35mm equiv.)	3x (35-105mm)	12x (35-420mm)	8x (37-300mm)	7x (28-200mm)	4x (27-110mm)
Maximum aperture	f2.8-f4.9	f2.8	f2.8-f3.1	f2.8-f3.5	f2.8-f4.8
Media supported	Secure Digital	Secure Digital/MMC [C]	Secure Digital/MMC	CompactFlash Type II	xD Picture Card; CompactFlash Type II
Size (inches) [D]	Compact, 3.8-x-2.0-x-1.2	Large, 5.5-x-3.4-x-4.2	Midsize, 4.9-x-3.4-x-3.4	Midsize, 4.6-x-3.4-x-13.7	Midsize, 4.6-x-3.4-x-2.6
Weight (ounces) [E]	4.6	18.3	13.7	19.8	15.2
Bundled software	NikonView	ArcSoft Camera Suite	HP Photo and Imaging	Minolta Dimage Viewer	Olympus Camedia Master
Bundled hardware	16MB SD card; USB and video cables.	16MB SD card; AC adaptor; lens hood; USB and video cables.	32MB SD card; dock; USB cables.	16MB CompactFlash card; lens hood; USB and video cables.	32MB xD card; remote control; USB and video cables.
Battery [F]	Lithium Ion	Lithium Ion	AA (no charger)	Lithium Ion	Lithium Ion
Additional features	Can also use Duracell CP1 lithium batteries; AF illuminator; voice-activated self-timer.	Optical image-stabilization system; supports add-on lenses (though they are hard to find), electronic viewfinder, hot-shoe.	Supports camera dock; images can be marked for email or printing; illuminator; unique AF Digital Flash feature; electronic viewfinder; optional wide-angle lens.	Antishake CCD; hot-shoe and flash sync port; tiltable LCD and electronic viewfinder; saves favourite settings to mode dial; time-lapse mode; supports Raw image format.	Passive autofocus sensor and AF illuminator; flip-up rotating LCD; supports add-on lenses, underwater case, and external flash; saves favourate settings to mode dial; supports Raw format.
Movie mode	Yes, with sound (maximum length dependent on card).	Yes, with sound (maximum length dependent on card).	Yes, with sound (one-minute maximum).	Yes, with sound (maximum length dependent on card).	Yes, with sound (maximum length dependent on card).
Image quality	Very good; can be noisy if ISO is boosted.	Fair; some jaggies and purple fringing.	Fair; some jaggies, noise and purple fringing.	Excellent; slightly noisy.	Very good; noisy at defauly settings.
User interface	Very good; numerous scene modes a bonus.	Very good.	Excellent; in-camera help system a bonus.	Acceptable; challenging to learn.	Acceptable; can be intimidating.
Pros	Compact metal body; robust performance; AF illuminator; VGA movie mode; voice-activated self-timer; impressive macro performance; excellent LCD; lots of scene modes.	Fast, stabilized 12x zoom lens; very good photo quality; full manual controls; support for add-on lenses and external flash; sharp and large LCD and electronic viewfinder; excellent continuous-shooting modes; well built.	Great value; incredibly easy to use; Digital Flash feature lives up to hype; electronic viewfinder usable in low light; full manual controls.	Great photo quality; sharp 7x zoom lens; very useful antishake system; superb performance, even in Raw or TIFF mode; easy to see electronic viewfinder and LCD, even in low light; excellent battery life.	Nice wide-angle lens (that still has some zoom power); tons of maual controls; expandable; two histograms in record mode; VGA movie mode; excellent battery life; Raw images can be edited in camera.
Cons	Images can be noisy if ISO boost is used; red-eye; limited manual controls; movie mode has a few bugs.	No AF illuminator (and therefore poor low-light focusing); electronic viewfinder can be hard to see in low light; must use manual focus for macro shots in manual shooting modes.	Dated movie mode; slow write speeds; burst mode not usable since screens shut off; audio-video cable costs extra.	Images slightly noisy; not an easy camera to use; uinimpressive software bundle and movie mode.	Images noisy at default camera settings; some red0eye; controls can be confusing at first; manual only on CD.
Contact	Nikon, www.nikon.co.uk 0870 770 0233	Panasonic, www.panasonic.co.uk 08705 357 357	HP, www.hp.com/uk 08705 474 747	Konica-Minolta, www.minolta.co.uk 01908 200 400	Olympus, www.olympus.co.uk 0800 072 0070

Cameras listed first in order of resolution, then alphabetically by vendor. [A] Effective resolution, not the CCD's resolution. [B] Suggested retail price. [C] MultiMedia Card. [D] Width-x-height-x-depth. [E] Camera only unless noted. [F] Battery charger included unless noted.

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	Olympus	Pentax	Sony
	E-1	Optio 555	Cyber-shot DSC-F828
	★★★★/8.9	★★★★/7.5	★★★/6.9
	5.0	5.0	8.0
	£999; £1,399 with lens.	£500	£900
	No lens included	5x (37.5-187.5mm)	7x (28-200mm)
	No lens included	f2.8-f4.6	f2.0-f2.8
	CompactFlash Type II	Secure Digital/MMC	CompactFlash Type II; Memory Stick Pro
	Large , 5.6-x-4.1-x-3.2	Compact, 3.9-x-2.3-x-1.6	Large, 5.4-x-3.6-x-6.3
	23.3	7.2	33.7
	Olympus Viewer; Olympus Studio (demo); Adobe Photoshop Elements.	ACDSee	Pixela ImageMixer (Mac OS 9 only); Sony Image Data Converter (should be Mac-compatible by the time you read this).
	USB; FireWire; and video cables.	16MB SD card; 3D image viewer; USB and video cables.	AC adaptor; lens hood; USB and video cables.
	Lithium Ion	Lithium Ion	Lithium Ion
	Digital SLR; AF illuminator; splash-proof body; supports Raw format; noise- and shaking-reduction features camera can be controlled by Olympus Studio software; Four Thirds lens mount.	Passive autofocus sensor; 3D photo feature; built-in colour filters; saves favourite settings to mode dial.	Electronic viewfinder; unique NightShot and NightFraming modes; rotating lens; supports Raw format; manual zoom; focus rings; VGA movie mode.
	No	Yes, with sound (maximum length dependent on card).	Yes, with sound (maximum length dependent on card).
	Excellent; some images underexposed.	Very good; somewhat noisy.	Fair; high levels of noise and purple fringing.
	Very good	Very good	Very good
	Robust performance; great image-quality; all the benefits of a D-SLR; long battery life; USB 2.0 and FireWire; innovative dust-removal system; AF illuminator; well built; splash-proof.	5x zoom lens in compact body; full manual controls; freat performance; long battery life; impressive macro mode; unique 3D and colour-filter features.	Robust performance; very high resolution; fast 7x zoom lens; well-designed, sturdy body; useful NightFraming feature; VGA, 30fps movie mode; full manual controls; supports external flash; dual memory-card slots.
	Images sometimes underexposed; expensive compared with other cameras in class; nonstandard lens.	Images somewhat noisy; red-eye.	Too much purple fringing in images; not as many manual controls as other cameras in class; competition from D-SLRs; slow Raw-mode performance; software not OS X compatible.
	Olympus, www.olympus.co.uk 0800 072 0070	Pentax, www.pentax.co.uk 01753 792 731	Sony, www.sony.co.uk 020 7365 2947

Macworld's buying advice

There's something for everyone this month, with cameras that range from a compact point-&-shoot to a full-size digital SLR (D-SLR).

The only point-&-shoot camera in the group is the **Nikon Coolpix 3700**. This is Nikon's first camera to use Secure Digital (SD) memory cards, and it has an autofocus-assist lamp that helps the camera lock focus in dim light – a feature that' rarely found on Nikons. Two standout features on the 3700 are a beautiful LCD and a voice-activated self-timer. Image quality is excellent, though the automatic ISO boost can add visual noise to images. Red-eye is also an issue; this is common with compact cameras.

If you want a camera with a wide-angle lens, the **Olympus C-5060 Wide Zoom** is worth a look. It offers a 4x zoom lens that starts at 27mm – you won't often see this in the digital world. Image quality is great, but noise levels are higher than normal (turning down the in-camera sharpening helps reduce noise). Long battery life and the responsive autofocus system are also noteworthy.

Control freak

One of my favourite ultrazoom cameras from last year was the Panasonic Lumix DMC-FZ1. However, I disliked its low resolution and lack of manual controls.

A great new model, the **Lumix DMC-FZ10**, still has that amazing f2.8, 12x zoom Leica lens with optical image-stabilization, but this new camera has 4 megapixels and full manual controls.

The impressive lens and burst modes make the DMC-FZ10 great for action photography. My main gripe concerns how it works in low-light conditions: it's hard to focus, and the electronic viewfinder can be too dark to see.

The **Dimage A1**, from Konica Minolta, also has image stabilization, but instead of the mechanism being in the lens it's part of the CCD. The A1's f2.8-f3.5, 7x zoom lens isn't as impressive as that on the DMC-FZ10, but you get an extra megapixel of resolution and manual controls.

The A1 also has great performance, with no delays between shots, even in Raw or TIFF mode. Unlike the electronic viewfinder (EVF) on most cameras, the A1's EVF can be viewed in low light. The A1's lithium-ion battery lasts for a long time, too. As with some of the other cameras I've mentioned, the A1's images are slightly noisy but otherwise excellent.

Another 5-megapixel ultrazoom camera is the **HP Photosmart 945**. Whereas the Dimage A1 focuses on performance and manual controls, the Photosmart is designed for ease of use.

From the in-camera help system to the HP Photo and Imaging software, the Photosmart 945 is a shining example of a camera that anyone can use. I like how it lets you select photos for sending via email or printing. Another cool feature is Digital Flash, which brings out detail in underexposed areas. As with the Dimage A1, the 945's electronic viewfinder is usable in low light. However, its downsides include slow write speeds, a dated movie mode, and a fairly useless burst mode.

If you want extra zoom-power in a pocket-size camera, consider the **Pentax Optio 555**. It offers a 5-megapixel CCD and a 5x zoom lens, manual controls, and great battery life, all housed in a take-anywhere metal body. The camera also has unique digital colour filters and a mode for making 3D images. Like the Olympus C-5060, the Optio 555 takes good but noisy images. And like the Nikon Coolpix 3700, the 555 has red-eye problems.

Mega-megapixels

If 5 megapixels isn't enough, how does 8 sound? The **Sony Cyber-shot DSC-F828** has just about all the bells and whistles you can imagine, and then some. It takes very high-resolution images, but they contain a lot of purple fringing (chromatic abberation), especially given the camera's 7x Zeiss T lens. In most cases, performance is very good, except in Raw mode, where the camera locks up for several seconds while the file is saved to the memory card. Speaking of memory cards, the DSC-F828 can use Memory Sticks and CompactFlash cards (including IBM Microdrives).

The DSC-F828 is a bulky camera, with a unique rotating lens design that lets you shoot from unusual angles. Neither the included Pixela ImageMixer software nor the Raw conversion software is yet Mac OS X-native (but Adobe Photoshop's Camera Raw feature will do the trick). The DSC-F828 is compatible with iPhoto, though.

The **Olympus E-1** digital SLR uses the new Four Thirds standard, which was designed with Kodak and Fuji. Since it's an all-new system, you'll need to buy new lenses – a problem for the pros that Olympus is trying to lure. Although the Olympus E-1's resolution is lower than that of other cameras in its price range, it outperforms them in areas such as continuous shooting and build quality.

Image quality is excellent, though some of my test photos were slightly underexposed. The Olympus E-1 has an ultrasonic dust-removal system, which most D-SLR users will appreciate. This camera is great if you've only a small lens collection, or if you're starting out with your first SLR.

Jeff Keller

Database tool

Aestiva HTML/OS version 3

Publisher: Aestiva
www.aestiva.com
Pros: Create dynamic databases very quickly.
Cons: Short on tutorials and online help.
Min specs: Mac OS X 10.2.
Price: H20, free; H20 Titanium, $199; HTML/OS, $799.
Star Rating: ★★★★/8.4

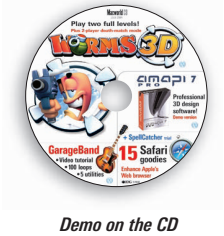
If you're in the business of making dynamic Web sites as a hobby or for a living, you'll be doing yourself a favour if you take a close look at Aestiva's Web-based HTML/OS environment for building Web-software applications.

HTML/OS can script database-driven Web applications, dynamic HTML forms, ecommerce sites, email systems, intranets and Web-based software. It features a high-performance database engine, an English-like scripting language called H20, and the simplicity of standard HTML.

It does away with the need for database servers and scripting languages such as ASP, ASP.NET, JSP or PHP.

Aestiva's database engine is integrated into HTML/OS. There are no drivers needed – they slow down database transactions – and no database server to set up, maintain or rely on. Aestiva databases can contain up to 99 million records per table and as many tables as you want.

Each database record can have up to 350 fields. A standard text field can contain up to one 100,000 bytes of data. Aestiva claims that to search a million records will take 50 to 100 milliseconds, that updates can be performed at 10,000 per second, and data imported at over 100,000 records per second.

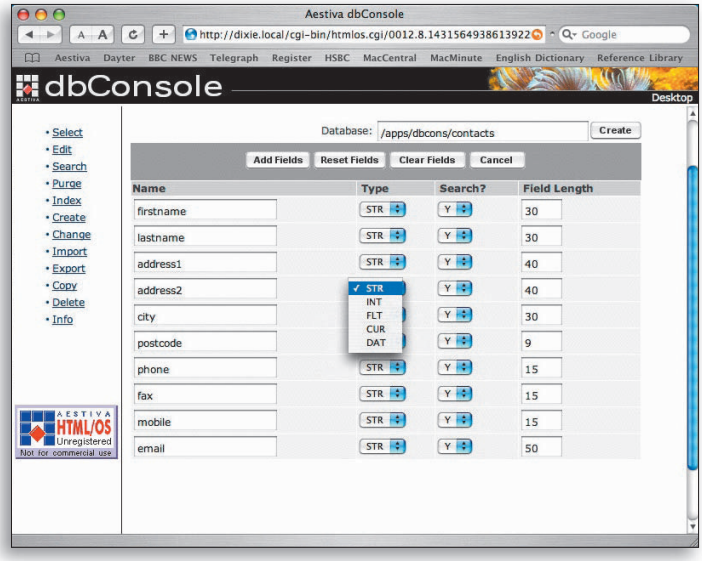


Demo on the CD

Easy accessibility

HTML/OS is available on Linux, Mac OS X, FreeBSD, Sun Solaris and Windows. It can be installed on standalone Web servers in standard hosting accounts and runs through a Web browser, making it available to virtually everyone. In order to manipulate HTML pages and deliver on-the-fly HTML documents to browsers, H20 and HTML/OS place instructions inside ordinary HTML documents. In HTML/OS, these instructions are called Overlays.

Overlays are special instructions that are actually program segments. An Overlay is a set of << and >> brackets around the scripted code. Overlays can contain calculations, instructions and other Overlay tags. An Overlay tag is a programming function or word used to perform a specific task. For example, the Overlay <<mynumber=RANDOM(10)>> contains the Overlay tag RANDOM. The tag selects a random number between one and ten and places it in the variable 'mynumber'. Overlay tags are also called Otags.



For a Web browser to read an HTML document, the document should begin with an <html> tag and end with a </html> tag. The documents stored on a HTML/OS server can begin or end with Otags.

Tag – you're it!

There are three distinct types of Overlays with HTML/OS. Underlays are Otags that are placed before the <html> tag of the Web page. Underlays can contain any number of instructions and any of the Otags found in the HTML/OS language except those tags that change the content of the page. An instruction such as <<DISPLAY a /DISPLAY>> is not allowed to print the value of the variable to the page because Underlays are not in the display portion of the page.

Overlays that are found between the <html> and </html> tags are called Inlays. Inlays can be used to change the document on-the-fly by performing calculations, running functions and pulling results from HTML/OS database queries and displaying them on the page.

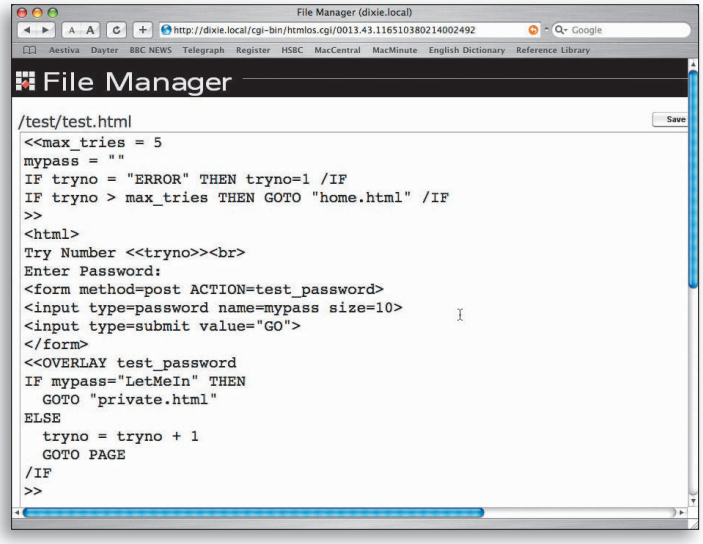
The third sort of Overlay is called the on-click Overlay. These are placed after the </html> tag. They are different from Underlay and Inlays as they are not executed as HTML/OS reads a document from top to bottom. On-click Overlays run in response to a user clicking on a hypertext link or a Submit button.

You don't have to use a text editor to write HTML and HTML/OS overlay tags – you can write them within HTML/OS or use popular HTML editors such as Adobe GoLive or Macromedia Dreamweaver

The HTML/OS database is a result of a complete rethink about how databases should work on the Web with the emphasis on how they could be improved and made easier to manage. An HTML/OS database can handle any number of simultaneous requests, and operates as fast as the hardware will allow.

Databases are managed over the Web – indexing, purging and other tasks can be performed with tags, or performed using dbConsole, an application that is distributed with HTML/OS professional edition.

Perhaps best of all, if you need to add a record to a database, use DBADD. Need to Search? Use DBFIND. Need to change a record? Use DBEDIT. Only one tag is needed for each of these database operations.



Macworld's buying advice

The H20 family includes three engines: H20, H20 Titanium, and HTML/OS.

H20, the entry-level product, is free and will meet the needs of students and people trying H20 for the first time, though it supports only 500 records. H20 Titanium is a pro version of H20. It includes a greater database capacity of 10,000 records, and support for secure (HTTPS) servers.

The flagship is HTML/OS. This version includes a special session optimizer so it can support thousands of users. The database engine supports data tables of up to 99 million records.

If you want a straightforward way to create dynamic sites, then look no further. HTML/OS is the HyperCard of Web applications – that creates 'dynamic Web sites for the rest of us'.

John Dixon

Macworld.co.uk Subscribers can search Macworld's Reviews database online (www.macworld.co.uk), updated throughout the month

Techno techno techno

Filter Quad Rhythmic Multimode Filters

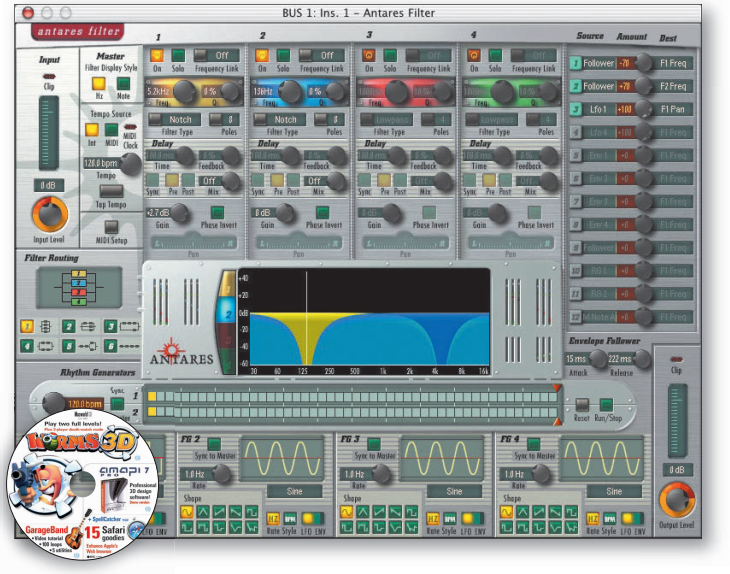
Publisher: Antares
www.antarestech.com
Distributor: Unity Audio, 01440 785 843
Pros: Provides creative filtering and modulation effects for your favourite audio/MIDI software.
Cons: No TDM version.
Min specs: Mac OS 9.x or OS X 10.2; a host program that supports the appropriate plug-in architecture.
Price: £135 including VAT.
Star Rating: ★★★★/7.8

Looking for a way to instantly create the kinds of sounds you hear on techno records and as effects in pop and dance music? You need Antares Quad Rhythmic Multimode Filters.

Filter incorporates four stereo filters with lots of control sources and powerful modulation capabilities. Extensive MIDI control is provided, and you can lock all parameters to MIDI clock. Available as an RTAS, MAS or VST plug-in, it makes an ideal partner for Pro Tools, Digital Performer or Cubase users working with loops on rap, techno and other popular music genres.

Each filter has low-, high-, band-pass and notch modes with variable resonance. Each of the four low-frequency oscillators offers a choice of ten waveforms. Four envelope generators can each be triggered by one of the rhythm generators or by MIDI. The two drum-machine-style rhythm generators let you create loop-based grooves or polyrhythms and can be used as control sources in the Mod Matrix or as trigger generators for envelopes. The Modulation Matrix lets you route internal control sources and external MIDI controllers to virtually any of Filter's key parameters.

This plug-in has one of the most densely packed interfaces I've seen – in complete contrast to its stablemate, the Tube, which has just a handful of controls. Nevertheless, due to the effective use of colours, shapes, and groupings, it's easy to find your way around – especially if you have previous experience of using the filters and modulation controls on an analogue synthesizer. The Graphic Filter Display shows the response curves of active filters and you can adjust frequency and Q by manipulating the filter's response curve. Matching colours appear on the filter sections and their associated display curves, and on the selection buttons and filter blocks in the filter routing diagrams.



Delays aplenty
Four delay sections let you create stunning rhythmic delay effects, and you can use the filters or the delays on their own or in combinations.

Macworld's buying advice

The Filter plug-in is perfect for producing techno noises and sci-fi effects locked to the tempo of your music – just like it says on the tin! The interface, while complex, will pose no problems for anyone familiar with synthesizers.

Even if you're new to filters, you can still get great results right out of the box using the excellent selection of factory presets.

Mike Collins

Tube-amp simulator

Tube

Publisher: Antares
www.antarestech.com
Distributor: Unity Audio, 01440 785 843
Pros: Adds valve warmth and overdriven sound characteristics to digital recordings.
Cons: Input clipping can occur easily.
Min specs: Mac OS 9.x or OS X 10.2; a host program that supports the appropriate plug-in architecture.
Price: £97 including VAT.
Star Rating: ★★★★★/9.1

Heavenly Blue and Fiery Orange are descriptions of the glowing valves or, as the Americans call them, tubes, that are simulated by the latest offering from Antares software – Tube. These tubes are typically used in the preamp sections of guitar amplifiers and are also used in classic mic preamp designs.

Heavenly Blue models the subtle effects of a high-quality tube preamp and you can use this to add warmth to vocals, instruments or complete mixes. The Fiery Orange tube models the deep, warm distortion of an overdriven tube amplifier, so you should use this in moderation – unless you're looking for a very distorted sound.

Tube is available as an RTAS, MAS or VST plug-in – so it works with most popular host software including Pro Tools, Digital Performer and Cubase. It's as though you had recorded these through a high-quality analogue valve preamp.

Use the Input Level control at the left to adjust the gain such that the input-level needle spends most of its time in the top two red segments without lighting the Clip indicator. Keep the input meter needle within the red segments, or no tube effect will be audible – even with maximum Drive.

But do keep a close watch on the Clip indicator. Input clipping is not the desirable distortion that happens in the tube model – it just sounds nasty!

Use the Output Attenuation control at the right to reduce the level of the signal after it has passed through the tube model. You can adjust this to ensure that no clipping occurs as a result of the gain applied by the Drive control. As with the Input Level meter, the output level meter needle should spend most of its time in the top two red meter segments without the signal triggering the Clip indicator lights. If these light up, reduce the output.

A switch to the left of the Drive control lets you experiment further using the OmniTube function. This applies the effect to the entire signal – as opposed to only the transients as with a tube preamp.

Tube driver
The user-interface is a model of simplicity. The slider at the bottom controls Drive – which determines the amount of the effect that you will hear.

Macworld's buying advice

I tried the Tube on an acid jazz project where I played lead and rhythm guitars. The guitars sounded fine, but were getting lost in the mix at times. EQ was changing the sound in the wrong way. Applying a moderate amount of Heavenly Blue Tube processing did the trick – lifting the guitars out of the mix by making them sound fuller, with a more interesting presence in the solo sections and warming-up the sound in the rhythm sections, without changing the tone in any drastic ways. Highly recommended.

Mike Collins

The new Sony DSC-T1 offers a no-compromise option for photographers who are looking for an easily pocketed digital camera. Though only the length and width of a credit card, and 21mm wide, the 200g, all-metal T1 packs a 5-megapixel sensor that delivers image quality that should satisfy even serious photographers.

Most tiny digital cameras feature lenses that extend outward when the camera is powered up. The T1 employs a radically different design that packs the camera's 3x lens vertically inside the camera's body. Because there's no lens protruding from the front, the camera feels particularly small. What's more, since you don't have to wait for the lens to extend, startup times are quick: open the door on the front of the camera, and the T1 is ready to shoot in about a second.

Compact 5mp camera

Sony DSC-T1

Manufacturer: Sony 08705 111 999
Pros: Tiny; high resolution; excellent image quality.
Cons: Can be difficult to hold if you have big hands; auto mode only; uses MemoryStick for storage; poor flash performance.
Min specs: USB.
Price: £500 including VAT.
Star Rating: ★★★★/8.5

Screen star

After its size, the T1's most notable feature is the beautiful 2.5-inch LCD screen that fills most of its back. The T1 lacks an optical viewfinder, but you probably won't miss it thanks to the LCD's exceptional quality. Bright and clear, the screen is clearly viewable in even direct sunlight.

Our biggest complaint with the design is that it's so small that one-handed use can be a bit uncomfortable if you have large hands; you'll definitely want to use the included wrist strap with this camera.

Though it's tiny, the T1's 3x lens is excellent. Offering a 35mm equivalent range of 38-114 (f3.5-f4.4), the T1 produces 2,592-x-1,944-pixel images of startlingly good quality with very low noise, even at ISO 400. Sharpness and detail are very good, though at wide angles you'll notice barrel distortion and softness in the corners.

The T1 offers only a fully automatic mode – no program or priority modes – but it does provide a full assortment of preset scene modes including Landscape, Slow Shutter and Snow and Sand.

You're somewhat limited with the T1 when it comes to flash photography. Because the flash is so tiny, it can barely illuminate a mid-sized room, making it suitable only for individuals and small groups. Unfortunately, because the flash is positioned directly next to the lens, the camera almost always produces red-eye. Tell your subjects to not look directly into the camera and things will improve.

Macworld's buying advice

The T1 isn't perfect – it lacks a tripod mount, could use some manual overrides, and can be difficult to use one-handed, but these are minor complaints in the face of the camera's tiny size and excellent, high-resolution images.

Ben Long

Not on the menu
The T1's controls are well organized, with buttons for flash control, image size, macro mode and self-timer –you rarely have to dig into the menu system.

I always get pretty excited about a new version of iTunes – the last version introduced the iTunes Music Store. This was a fantastic new feature, but only for those living in the US. It was less exiting for the rest of us, and we're still waiting for an international music store. The release of iTunes 4.5 had me thinking maybe this time we'd get remembered, but although there are some excellent new features, non-American users are still short-changed.

Most of the new stuff relates to the iTunes Music Store, but some – such as the music links – are available to users outside the US. One feature that doesn't appear to work in the UK (though I can't imagine why not) is the ability to publish favourite compilation mixes. In theory, you should be able to put together a mix of your favourite tunes, click a button and publish it on the ITMS. But that requires an account, so tough luck for the UK crowd until we get the ITMS for Europe.

Print "Damn funky doodads"
Print:
CD jewel case insert
Song listing
Album listing
Theme:
Mosaic
Prints a collage of available album artwork from the songs in your selected playlist or library. The back also features the album artwork. Prints in full color.
Page Setup...
Cancel
Print...

One feature that makes the 10MB download worthwhile is the print function. Another major new feature is Party Shuffle. This dynamic playlist shuffles through your music. Just point it at your dance collection, and let it mix it up. If you have any requests, you can add them on the fly.

There is also a new codec for importing CDs. The Apple Lossless encoder compresses CD music files by 50 per cent (playback is supported only on the 3G iPods). This is great for audiophiles that want the best sound, though it does raise a question as to the claimed "as good as CD quality" AAC files. Look for a head-to-head, ear-to-ear test in a future Macworld.

Macworld's buying advice

As ever, iTunes is free – which makes it an absolute no-brainer. Even though not all the features work in the UK, there's enough new stuff to make the download worthwhile.

David Fanning

MP3 playback

iTunes 4.5

Publisher: Apple
Pros: Lossless compression; CD-insert printing; Party Shuffle.
Cons: Some features don't work outside the US.
Min specs: Mac OS X 10.1.5, 400MHz G3, QuickTime 6.2.
Price: Free
Star Rating: ★★★★/8.8

CD inserts
Now you can print CD inserts that not only list tracks but if you have the album artwork loaded, iTunes prints that, too. Compilations show a collage of the featured album covers.

Desktop RAID array

StorePac SP40

Manufacturer: Lapis Solutions
www.lapis-solutions.com
01274 610 800
Pros: Super-safe and easy to administer.
Cons: Safety of RAID means wasted capacity.
Min specs: FireWire.
Price: £2,986 excluding VAT.
Star Rating: ★★★★/8.2

Storage is one of those ever-expanding needs – who would have guessed that anybody would need a terabyte of storage ten years ago? At the time, a gigabyte was considered excessive. Now terabyte storage systems are almost commonplace: the StorePac SP40 is the latest terabyte offering.

The largest hard disk currently available is 300GB, and that isn't likely to increase until new manufacturing methods come online in a year or two. The SP40 is a RAID system that takes four 250GB drives, and orchestrates their synchronized disks to create a terabyte of extremely safe and secure storage. It uses RAID 5, which means that because the data is stored over four drives, including parity information, any of the drives can fail without losing any data.

This requires some redundancy, so the theoretical capacity of one terabyte shrinks to just 750GB of usable space. It's a bit disappointing, but still capable of swallowing four or five years' worth of MP3s. Not that MP3 storage is the aim of this monster – it's suited to more-mundane tasks such as backing up your server.

The main rival for the SP40 is the Xserve RAID. By comparison, the Xserve RAID is rather more robust, designed specifically to work with the Xserve, and looks the business. Unfortunately it costs a whopping £4,799 – almost two grand more than the SP40. The StorePac has fewer professional features such as an extra power supply and a rack-mountable design. But the data is safe because RAID 5 is so bullet proof.

Macworld's buying advice

The FireWire 800 interface makes this as fast as the Xserve (unless you go for the FibreChannel option). It is almost as safe as the Xserve RAID, though without a redundant power supply it could spend more time offline than would be ideal.

If your storage needs aren't mission critical, the SP40 could save you a lot of money. Used for backup rather than live storage, it would be perfect – it even comes with Retrospect backup software.

David Fanning

HD retrofit for G5s

G5 Jam G5J-0

Manufacturer: WiebeTech
www.wiebetech.com
Distributor: AM Micro, 01392 426 473
Pros: Provides additional storage inside a Power Mac G5; performs well in copying and duplicating files.
Cons: There are cheaper ways to add storage; hardware requires installation skill.
Min specs: Power Mac G5. Drives not included.
Price: £359 (excluding VAT).
Star Rating: ★★★★/8.0

The Power Mac G5 may be aimed at high-end video and graphics professionals, but Apple seems to have forgotten that these folks chomp through storage like they're at a pie-eating contest. The computer case holds only two internal drives for a maximum of 500GB.

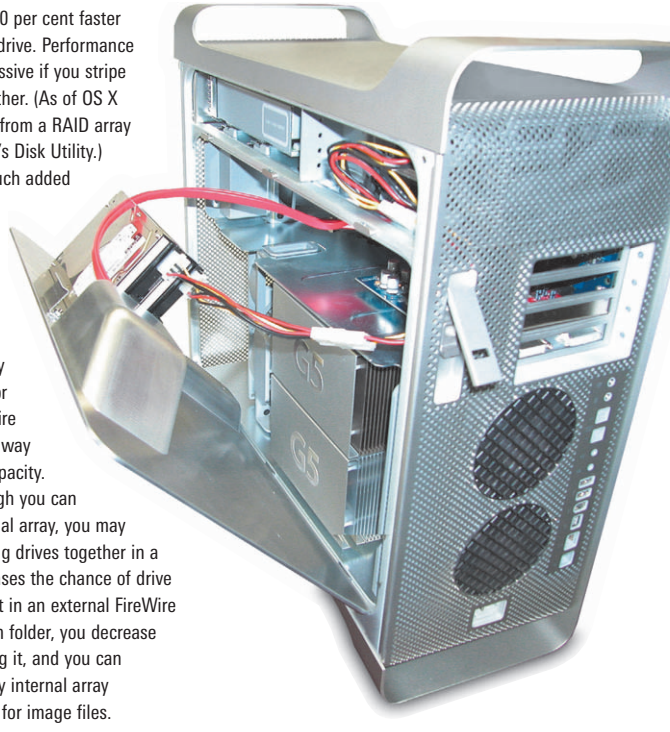
WiebeTech's G5 Jam squeezes two more drives into the G5 case for a total of four hard drives or up to 1 terabyte of storage. It replaces the internal side panel of the Power Mac G5 with a mirrored metal plate, which holds the drives in the end of the PCI card space. One slot is still available for a full-length PCI card; the other three slots can hold only shorter cards, such as the included graphics card. The new side plate not only holds the drives, it also dissipates heat better than the plastic plate it replaces.

Because Apple did not plan for the extra drives, the Power Mac G5 does not have built-in internal ports or cabling to provide power. WiebeTech includes a power cable that runs from the case's built-in power port and splits the power three ways.

We saw good performance with the G5 Jam and a single Serial ATA drive – copying and duplicating a file took about the same time on the new internal drive as an external drive attached via FireWire 800. When we added a second drive and striped them together into a RAID 0 array, performance was 40 per cent faster than with a single drive. Performance is even more impressive if you stripe all four drives together. (As of OS X 10.3, you can boot from a RAID array created with Apple's Disk Utility.)

The price for such added performance is somewhat steep. An external FireWire drive costs around £35 more than the drive mechanism by itself. Adding one or two external FireWire drives is a cheaper way to increase your capacity.

And even though you can boot from an internal array, you may not want to. Striping drives together in a RAID 0 array increases the chance of drive failure. If you invest in an external FireWire drive for the system folder, you decrease the chance of losing it, and you can dedicate the speedy internal array to video capture or for image files.



Macworld's buying advice

WiebeTech has provided a clever workaround to a Power Mac G5 limitation. Internal storage is less prone to theft or damage from jostling, and it cuts down on desktop clutter. It isn't for those with a full-length PCI cards or those uncomfortable installing hardware, but it can juice your computer with fast storage.

Kristina De Nike

Regardless of your ability to conceptualize how you could ever fill 1 terabyte (1,000GB) of disk space, the LaCie Bigger Disk will put that much capacity on your desktop in seconds. If you happen to know you need 1TB to back up your network or complete your video-editing project, this drive provides it in one enclosure.

The Bigger Disk can connect to your computer via FireWire 800, FireWire 400 or USB 2.0. The case holds four 250GB ATA/133 drives, but LaCie's custom firmware spans the four drives so your Mac sees them as one volume. You can't see or format the individual drives, but you can partition the large volume.

Our tests revealed that the Bigger Disk's performance is equivalent to that of a single ATA FireWire 800 drive. The array writes to the first drive, and when that drive is full, it moves on to the second and so on until it has used up all four drives. The drive performed best when it was connected to our Power Mac G5 via FireWire 800. The array was around 30 per cent faster on FireWire 800 than on FireWire 400. Over USB 2.0, the Bigger Disk was less than half the speed of FireWire 400.

You can secure the drive in a box or use it to transport large projects; though at 11 pounds, this drive isn't light – it's also rather bulky. If you want to attach the drive to a server, you can buy a mounting kit for a 19-inch network rack from LaCie.

Macworld's buying advice

The Bigger Disk costs £649, which is approximately the same price as four 250GB FireWire 800 external drives. But if one, huge volume is what you need, the LaCie Bigger Disk is a clean, simple solution.

Kristina De Nike

One-terabyte drive

Bigger Disk

Manufacturer: LaCie www.lacie.co.uk 020 7872 8000
Pros: Large capacity; connects via USB 2.0, FireWire 400, or FireWire 800.
Cons: No faster than a single FireWire 800 drive; bulky.
Min specs: USB; FireWire.
Price: £649 (excluding VAT).
Star Rating: ★★★★/8.9

9
X

Last November we gave Toast 6 a five-star review – not surprising, given its features and suite of included utilities. But while Toast can burn Red Book-compliant audio CDs and the included CD Spin Doctor gives you access to some mastering tools, audio professionals need more. And that's where Jam comes in.

Jam contains pretty much everything you need for audio mastering. The user interface is very similar to Toast – it's essentially a drag-&-drop affair for any QuickTime-compatible audio tracks, irrespective of whether they come from iTunes, an audio CD or other mastering program. You can even use 192kHz/64-bit audio files from pro digital-audio sequencers.

Toast allows you to set the gap between audio tracks; Jam also lets you create custom crossfades from one track to the next. Select one of five different crossfade types and the fade in/out points in the special window and immediately monitor the result. It's a doddle. Once happy, apply the crossfade and it's finished. This is a real lazy DJ tool where you can set up the whole evening's mix and then enjoy the party!

Jam offers a number of other features for creating pro audio CDs. Each track's gain can be adjusted and auto-normalized for optimal sound quality, and high-end stuff like PQ subcodes and index points are also handled. Best of all, the original audio tracks remain untouched throughout – the whole procedure is non-destructive. Try it, muck it up, then do it again painlessly.

Jam is self-sufficient on the burning side, sporting a similar interface to Toast. Multiple-copy recording, Disk At Once and ToastAnywhere are all included here.

Jack of all masters

Pull the tracks for your album into Jam, carry out a little editing in Peak Express 4, tweak the EQ, set the crossfades and burn your master…

A mastering suite wouldn't be complete without a stereo audio editor – so BIAS Peak Express 4 is included. This has a host of useful features and also accepts VST-compatible plug-ins with two for noise reduction and sound enhancement included. Register online and you get a free copy of BIAS Freq, a real-time four-band parametric equalizer plug-in. There's also information on where to download a free MP3 encoder for the program.

For really lazy DJs, Jam has added a new feature to Toast: DVD Music Album. Create a full DVD's worth of music in either uncompressed PCM format or, even better, in Dolby Digital, a compressed, high-bitrate audio format for over 30 hours of music on one DVD. Why not just create an MP3 CD instead? Because while all DVD players will recognize a Dolby Digital-encoded music DVD, very few CD players handle MP3 discs. The only downer is that the DVD Music Album facility isn't accessible from within Jam – any custom albums have to be saved as a Jam disc image first.

Macworld's buying advice

Toast with Jam means you really can have your toast with jam on it. It contains everything you could need for audio mastering and special mixes, and integrates perfectly with iLife '04. Highly recommended.

Vic Lennard

CD, audio mastering

Toast with Jam 6

Publisher: Roxio www.roxio.co.uk 01908 278 100
Pros: Easy to use; includes a decent audio editor; DVD Music Album and Dolby Digital sound add a new dimension; integrates well with Apple's iLife '04.
Cons: No support for DVD Music Album within Jam.
Min specs: G3; Mac OS X 10.2; 200MB hard-drive space; QuickTime 6.
Price: £149.99 including VAT.
Star Rating: ★★★★★/9.1

9
X

Free graphics editor

GIMP 2.0

Publisher: The GIMP Team
www.gimp.org
Pros: Better interface design; more functional toolset.
Cons: No native Aqua port.
Min specs: Mac OS X 10.2; X11.
Price: Free.
Star Rating: ★★★★/8.4

Since its inception nine years ago by Berkeley students Spencer Kimball and Peter Mattis, the GNU Image Manipulation Program, or GIMP, has become the de facto standard in Web graphics tools among the open-source community. Now, with the advent of OS X, Mac devotees can also make use of the GIMP, including the latest release, version 2.0.

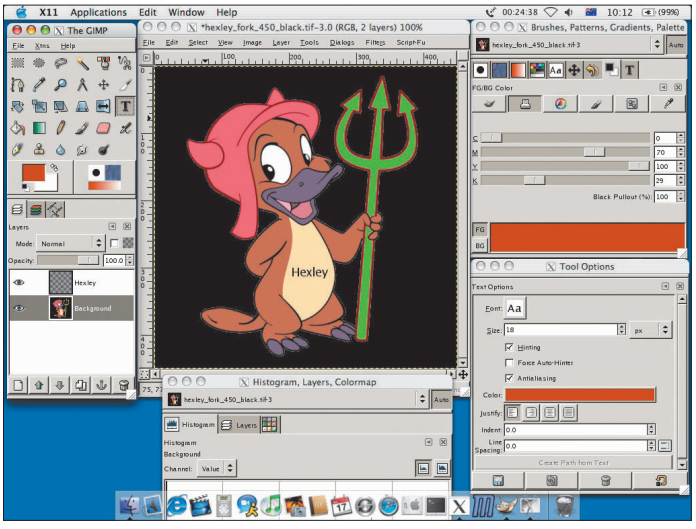
Among the numerous ways to get the GIMP up and running on your Mac (including compiling it from source, and by using Fink), by far the easiest is to install the pre-packaged Gimp.app (http://gimp-app.sourceforge.net). Gimp.app provides the GIMP and underlying libraries as a linked binary so all you need to do is unpack the .dmg file and copy the GIMP icon to your applications folder. The only prerequisite for Gimp.app is to have Apple's X11 installed, which is included with Panther.

Tools and dialog boxes

While still sporting the same separate window look-&-feel – which makes it very Mac-like – GIMP 2.0 has a few interface enhancements that make accessing its tools and dialogs much easier. For starters, each dialog window (for example, colour selection) supports multiple tabs allowing consolidation of frequently used functions into one window.

By default, the function's icon is displayed in the tab, but this can be changed to show the name in text, or both. Being able to drag-&-drop dialogs between windows is also handy, and the arrow keys make navigation a snap.

Each image now has the complete operations set available as a toolbar making the useful, but cumbersome on a Mac, ⌘-click combination optional.



GIMP unmasked
The free GIMP 2.0 sports a new dynamic text-editing tool, as well as the ability to select colours in the CMYK gamut. The real star of the show, though, is the application's scriptability – meaning almost limitless automation possibilities.

GIMP 2.0 introduces a new dynamic text-editing tool, and a new path tool that supports multiple curve segments and Scalable Vector Graphics paths. Multiple-image network graphics (MNG) format images are also supported as a replacement for animated GIFs.

Regarding the much-anticipated CMYK support, GIMP 2.0 does include a CMYK colour chooser, but native exporting of images to CMYK is slated for the next major release.

One of the GIMP's most powerful, and overlooked, features is its automation capabilities via backend scripting (see www.cooltext.com for an example of automated image manipulation). The C, Script-Fu, Perl and Python languages are all supported and the GIMP-Perl is now a separate package.

If the GIMP on OS X has drawback, it is the dependence on X11. This hinders some its functionality such as the screenshot and full-screen editing tools. However, dockable windows courtesy of Apple's X11 go a long way to making it feel like a native Aqua application

Macworld's buying advice

Despite what a few within the open-source community would like to think, the GIMP is no Photoshop killer – but as with all free software, it won't hurt to give it a try. Version 2.0 adds on its strengths with some great new interface, tool, and image features. And with a quick and easy way to get the GIMP up and running on OS X, there are no more excuses.
Rodney Gedda

G5-like hard drive

GBox

Manufacturer: Box Clever
www.macandmore.co.uk
01525 240 188
Pros: It looks good; quiet.
Cons: No backup software.
Min specs: FireWire
Price: FireWire 400 versions: 120GB, £129; 200GB, £159; 250GB, £199; 300GB, £247. FireWire 800 versions: 120GB, £175, 200GB £195, 250GB £265, 300GB £295. All prices exclude VAT.
Star Rating: ★★★★/8.8

If you have a G5 and need more storage Box Clever has just the thing. The GBox is an external FireWire hard drive designed with the G5 in mind. It shares the same style of aluminium casing, and that cheese-grater front grille. It's like your G5 had a baby.

Apart from its aesthetic value, the aluminium case also acts as a heat-sink, meaning the drive doesn't require a fan. That means it runs almost silently, or at least quieter than the G5. The model we looked at was a FireWire 400 version, though there is a FireWire 800 version that will give slightly higher performance.

In previous tests, we found that FireWire 800 offered a 30-40 per cent increase in speed. If you're doing work that requires a rapid drive, it might be worth investing the extra £50 for the speed boost.

One area where the GBox is lacking, and some of the competition has an edge is software. The Maxtor One-Touch drives for example, include backup software, whereas the GBox doesn't.

There are four capacities of GBox: 120GB, 200GB, 250GB and 300GB. Each of those configurations is available with either FireWire 400 or FireWire 800.

Macworld's buying advice

Extra hard-disk storage has become a bit of a commodity, and there's a wide choice of solutions. The GBox is reasonably priced, and it's attractive to look at, so it has everything going for it.

Ultimately, the looks and price will be the main decision maker, because performance will be the same as any other FireWire drive.
David Fanning

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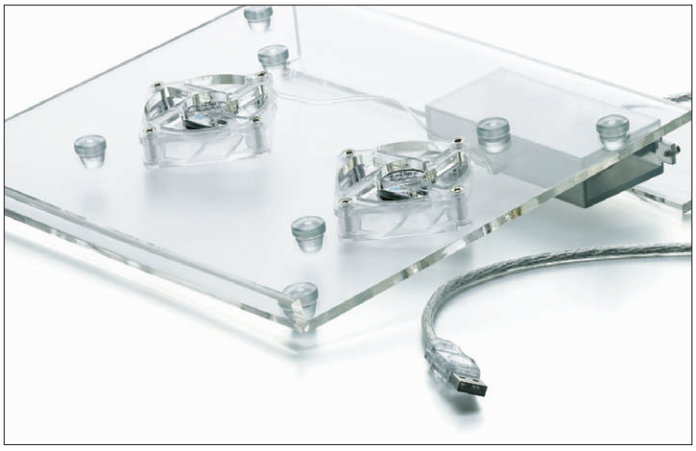
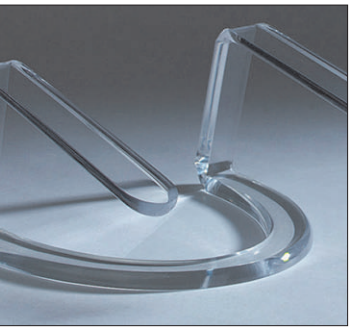
Macworld reviews laptop stands

LapGenie

MacMice iBreeze





The Griffin iCurve (above; £38 including VAT; AM Micro, 01392 426 473) offers a discreet solution to make more space on your desk. The iCurve almost makes it look as if your PowerBook is floating because the polycarbonate is transparent and the legs are at the back of the stand. It adds enough height to let your laptop become an effective LCD monitor, and frees up the space under the stand, though the base gets in the way slightly. It's a single unadjustable piece of plastic, but it is still good value and does the job it sets out to do.

Duty calls

When buying goods from outside the EU, there will be import duty to pay. The rate varies depending on the goods, but tends to be on a par with VAT.

Boy, did we ever get a good laugh out of the combustible PowerBook 5300. Quite the scorchin' deal, eh? (Never mind that only a few batteries in a testing lab actually caught fire.) These days, however, the joke isn't quite as funny: laptops really are getting hot enough to singe the skin.

You can stay cool with the right laptop stand. And you'll protect more than your skin: the 11 stands reviewed here all raise the height of your laptop to a more comfortable viewing or typing angle. As with most ergonomic products, one that's ideal for you may not work well for someone else, so keep your needs in mind. I wouldn't want to see you get burned.

Lap stands

My editor insisted that I work on this article from my couch, so I'm doing my best to accommodate him with the help of a few stands designed to keep a laptop off your lap. (They also function well on a desk.)

Rain Design's simple iLap (★★★★/8.1; 12-inch, £45; 17-inch, £55 including VAT); www.raindesigninc.com; www.shetlandmacshop.co.uk) features an angled anodized aluminium base with a soft padded base riser and padded wrist rest. You can't change degree of tilt, but the riser rotates slightly to match the angle of your legs (if you're sitting) or to lie flat on a desktop.

WorkRite Ergonomics' TravelRite (★★★★/7.4; $146; www.wrea.com) tilts your iBook or PowerBook as much as 30 degrees, which may provide a more comfortable angle for typing. It also provides space for air to flow beneath the laptop. It includes a padded wrist rest that you can adjust to match the thickness of your laptop; however, the wrist rest makes the TravelRite feel bulkier than it should and encourages you to rest your wrists while typing. Also, the stand blocks the media drive of a 15-inch or 17-inch PowerBook G4.

Dexia Design's Dexia Rack (★★★★/8.0; $45; $15.70 shipping; www.dexiadesign.com) is a model of portability. Folded flat, the aluminium frame is 0.75 inches thin and weighs 1.5 pounds. But when it's unfolded, the Rack lifts the laptop 7.6 inches – enough room to accommodate your legs when you're sitting on a couch or in bed, or to raise the screen for working at a desk. The rubber feet on my 15-inch PowerBook G4 didn't always find traction on the Rack's metal surface, but this wasn't much of an issue since the Rack is flat.

The LapGenie (★★★★/7.2; $130; www.lapgenie.com) provides what should be a happy combination of the previous two stands: it has a surface high enough to put your legs under and an adjustable surface that can be set to any angle that will hold your computer (a benefit for people who aren't able to work in a sitting position).

But the LapGenie is the Inspector Gadget of stands, with a bewildering six-step unfolding process. Folding it up was also annoying: on more than one occasion, the metal legs pinched my fingers. And when packed, it felt too bulky to be easily portable. However, once deployed, the stand is surprisingly sturdy, given its lightweight (1.7-pound) anodized aluminium body.

Desk stands

The previous stands are at home on your lap or your desk. The following stands are designed primarily for a desk or other flat, solid surface. They follow one of two design philosophies: they either hide your laptop's keyboard (so you can use an external keyboard and mouse without obstruction) or leave it accessible, whether you connect external input devices or not.

Keyboard inaccessible

Humanscale believes that since you won't be using your laptop's keyboard, that space can be put to better use. Its L2 model (★★★★/8.0; £119 excluding VAT; www.humanscale.co.uk), also called the Ergo-Top, has a plastic U-shaped piece, upon which you rest the laptop's lower section.

This piece completely blocks the keyboard and trackpad and serves as a document holder that lets you keep your reference materials in front of you. The base of the U-shaped piece tilts at one of five preset angles and controls the height of the laptop's screen.

A portable version of the same idea, Humanscale's L1 (★★★★/7.9; $300), or Ergo-Q, folds up neatly into a flat metal slab that's half an inch high. Like the Ergo-Top, the Ergo-Q has an adjustable leg mechanism that lets you change the height of the screen.

I liked the construction and design of both stands, especially the portable model, but the depth of each stand, when added to the desk space an external keyboard occupies, put the screen a few inches too far from my eyes. Also, putting the lower section of my PowerBook into the U-shaped construction blocked the front-loading DVD-drive; iBook and 12-inch PowerBook G4 owners, whose media drives eject from the side, won't have this problem.

The StandIt, from StandIt (★★★★/7.5; AUD$70 including shipping; www.standit.com), also blocked my PowerBook's media drive, but the utter simplicity of its design and its low price nearly compensates for that. You might think that the metal StandIt is just a recipe-book holder: a lip on the bottom prevents the laptop from sliding onto the table, and a stiff wire leg pivots out from the back to provide support.

Three separate legs of different sizes come with the StandIt to control its angle; you need to remove one before attaching another, which is awkward. Ultimately, though, the StandIt didn't work for me because the aluminum PowerBook G4's hinge doesn't open up far enough to make

ErgoKomfort Laptop-Desktop Stand

Macworld.co.uk Subscribers can search Macworld's Reviews database online (www.macworld.co.uk), updated throughout the month

the screen vertical. (To be fair, the stand worked fine with my older Titanium PowerBook G4.)

Keyboard accessible

If you want height without sacrificing the use of your laptop's keyboard and trackpad, the following stands provide more-open designs. Though you'll probably use these on a desk with an external keyboard and mouse, it's nice to have the option of unhindered access to the laptop.

Similar in design to the L1, Contour Design's NoteRiser (★★★★/7.8; $130; www.contourdesign.com) begins as a slim square of aluminium and transforms, via a couple of bends and slots, into an angled stand that can raise your laptop. The NoteRiser has two metal tabs that prevent the laptop from sliding; these tabs also make a PowerBook G4's media drive inaccessible.

For something sturdier, turn to the Kamas PowerBook Stand (★★★★/8.6; $100; $10 shipping; www.macsonly.com/macimp/kamas2.html), which is composed of a heavy-duty steel base and a laptop platform that is adjustable to any angle. A bracket holds the computer securely in place and includes a slot that accommodates the PowerBook's DVD drive (you specify your PowerBook or iBook model when you order, so you get the correct bracket). A small shelf in back is great for storing the computer's power adapter, and a small extension on the platform allows you to thread cables out of the way.

My favourite stand for elevating my PowerBook is the inexpensive Laptop-Desktop Stand, from ErgoKomfort (★★★★/8.9; $50; $38 shipping; www.ergokomfort.com). This simple two-piece acrylic shelf lifts the laptop to a comfortable level and offers a tilt of up to 15 degrees. The computer sits on top, with its ports and the media drive fully accessible, so you can easily grab your PowerBook and toss it into your bag at the end of the day.

Although each of the previous stands keep a hot laptop at bay, none of them actively deal with the heat issue. MacMice's iBreeze (★★★★/8.1; £31; AM Micro, 01392 426 473; www.macmice.com) takes on that challenge. A stand made from a single piece of acrylic, the iBreeze also includes two built-in, USB-powered fans designed to siphon the heat away from the laptop.

The fans are relatively quiet – they sounded a little softer than my PowerBook's internal fan – and tend to lower the laptop's temperature by between 5 and 15 degrees Fahrenheit; with the help of Jeremy Kezer's ThermographX software (www.kezer.net/thermographx.html), I saw an average of about 8 degrees. While the iBreeze is a bargain, its lack of angle adjustment limits its usefulness.

Humanscale L2

Macworld's buying advice

I tend to favour simpler designs such as ErgoKomfort's Laptop-Desktop Stand, but I'm also drawn to the elegance of portable stands such as Humanscale's LPTHLD01 and Contour Design's NoteRiser, though it's unfortunate that the PowerBook G4's front-loading media drive is often blocked by the design of many stands.

The important thing is that each of these laptop stands will keep your legs cool and raise the laptop to a better viewing or typing angle.

Jeff Carlson

ADSL connectivity

X-Modem CE

Manufacturer: ADSL Nation
www.adslnation.com 01865 761 114
Pros: Simple yet powerful; Live IP feature; small footprint.
Cons: Incompatible with AOL.
Min specs: Ethernet
Price: £59 including VAT.
Star Rating: ★★★★/8.7

In the early days broadband access was limited in both its availability and the options open to subscribers. Now, however, access is available to many more people, and the choice of equipment is much greater. The options for ADSL-connection hardware generally falls into two categories – either a USB ADSL modem or a more fully featured ADSL router. The X-Modem is technically more router than modem, and it offers a great budget way to avoid the less-flexible USB modem solution.

The X-Modem offers an Ethernet connection to the Internet for a single computer, much the same way as a USB modem would, but with added benefits. First off, USB connections often aren't really always on – they need to connect like old dial-up modems. In addition, USB devices need drivers, and Mac drivers can be hard to come by. The X-Modem works just like a router, and holds the connection without needing to connect each time – one of the best features of broadband. It doesn't require drivers, so there will be no problem with compatibility.

Setting up the X-Modem is as simple as any other connection to the Internet. It comes with all the cables you'll need, and the box itself is as small as a dial-up modem. You'll need to know your login and password, but the rest pretty much takes care of itself. It shouldn't take more than five minutes from start to finish. Once connected, you'll have broadband access – but only for one machine. If you have more than one machine, there are a number of options open to you.

Sharing your Internet connection is a simple matter; it's just an option from the Sharing panel in System Prefs. However, because you're connected using a single Ethernet connection, you need to share the connection using some other method, such as AirPort. Another simple option would be to plug the X-Modem into a simple router. If you need this functionality from the start, it might be a better idea to buy an ADSL router. But if you think you might add machines to your home network at a later date, you can buy a router without a built in ADSL modem when the time comes.

An interesting feature of the X-Modem is called Live IP. This is the ability to use the allocated IP address from your service provider right on your Mac. That means there's no NAT (Network Address Translation), so your Mac can be accessed directly from the Internet. This might sound scary, but so long as you're careful and use your machine with real passwords, you should be fine. The upside of this is the ability to run a personal Web server, FTP site, gaming server, remote access or whatever you like. You can use the built-in OS X firewall to limit access from unwanted connections on the Internet.

Macworld's buying advice

If you have a single Mac and a broadband connection, the X-Modem is a far better choice than a USB ADSL modem. If you have more than one Mac you can still use the X-Modem, but you'll need some extra hardware to share the connection. For the price though, it's by far the best option for broadband connectivity.

David Fanning

Font-repair tool

Font Doctor 6

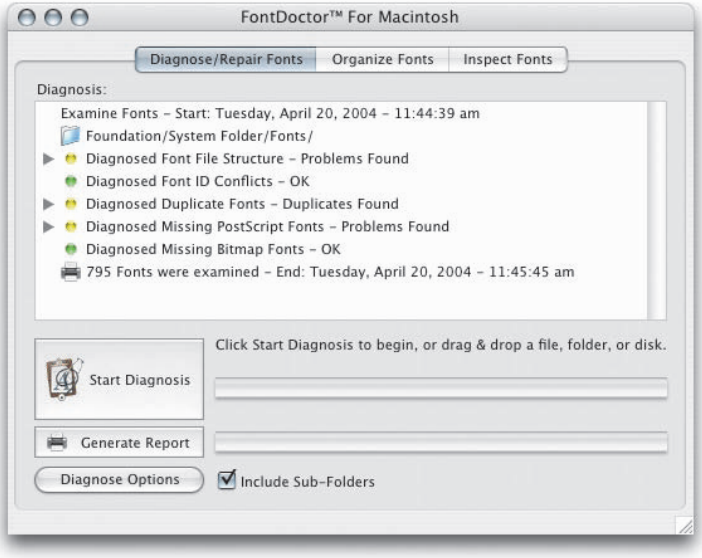
Publisher: Morrison SoftDesign www.fontdoctor.com
Pros: Simplified interface; cross-platform font conversion; fast.
Cons: Some redundancy with font-activation applications.
Min specs: Mac OS X.
Price: $70; upgrade, $20. Buy online.
Star Rating: ★★★★/8.8

Font Doctor is a utility you don't want to have to use. But when your fonts are acting funky or are scattered across your hard drive in disarray, then Font Doctor 6 becomes your best friend.

It not only repairs corrupt fonts and organizes them into neat folders, but also converts Windows fonts to Mac fonts, and vice versa. Now sporting a faster and simpler interface, Font Doctor, which has been updated for Panther, is a great complement to full-featured font-activation applications such as Suitcase, which bundles Font Doctor. The $20 upgrade price certainly makes it worthwhile for current users.

If you're already using a font-activation program such as FontAgent Pro or Font Reserve, some Font Doctor features will seem redundant. For instance, font previews are in both of those applications. But when it comes to fonts, you can never have too many previews.

Font Doctor 6's organizational function is fast. Depending on how many fonts reside on your system, the time needed to put them all into neat, alphabetically ordered folders will vary. Font Doctor preserves Extensis Suitcase databases, so users don't have to worry about having to redo all of their customized font sets.


FontDoctor™ For Macintosh
Diagnose/Repair Fonts
Organize Fonts
Inspect Fonts
Diagnosis:
Examine Fonts – Start: Tuesday, April 20, 2004 – 11:44:39 am
Foundation/System Folder/Fonts/
Diagnosed Font File Structure – Problems Found
Diagnosed Font ID Conflicts – OK
Diagnosed Duplicate Fonts – Duplicates Found
Diagnosed Missing PostScript Fonts – Problems Found
Diagnosed Missing Bitmap Fonts – OK
795 Fonts were examined – End: Tuesday, April 20, 2004 – 11:45:45 am
Click Start Diagnosis to begin, or drag & drop a file, folder, or disk.
Start Diagnosis
Generate Report
Diagnose Options
Include Sub-Folders

If you haven't yet replaced all of your PostScript and TrueType fonts with the cross-platform OpenType format, you'll find Font Doctor's ability to convert fonts from Mac to Windows format and back again handy. Whether that's a good enough reason for upgrading from Font Doctor 5.5 depends on how frequently you need to convert your fonts.

Macworld's buying advice

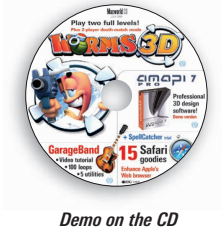
Font Doctor 6 carries on Morrison SoftDesign's tradition of easy and expert font repair and organization. If font-coordination problems plague your cross-platform work environment, then look no further – Font Doctor will fix them.

Andrew Shalat

Howzat!?

Cricket 9.1

Publisher: Graham Randall homepage.ntlworld.com/grandall
Pros: Very playable; editable up-to-date team lists; the only game of its kind on the Mac.
Cons: Blocky graphics; new radar feature needs a bit more work.
Min specs: G3; Mac OS 8.6 or OS X.
Price: £15 including VAT.
Star Rating: ★★★★/8.0



Demo on the CD

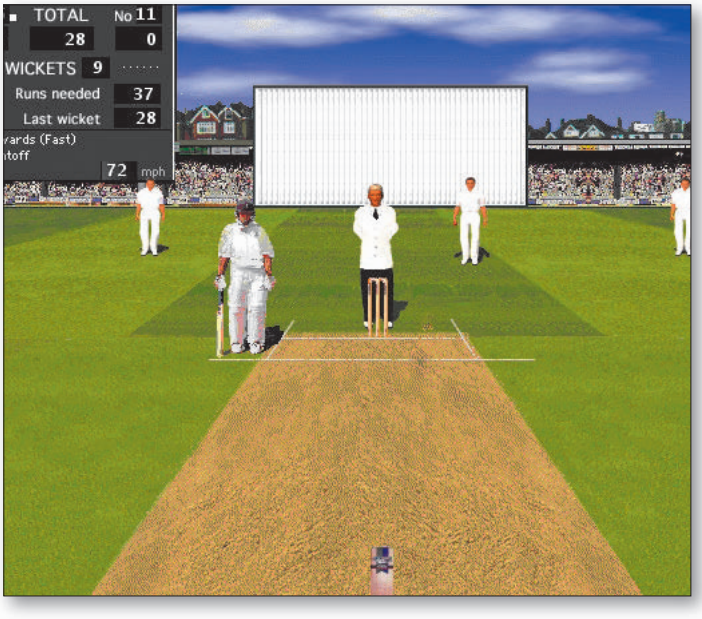
Cricket doesn't travel well. Very few nations play the game worldwide and the Americans have stayed well away from it, preferring its rather more aggressive distant cousin, baseball. So it was with some satisfaction that I recently saw the demo of Graham Randall's Cricket appear on the US-based macgamefiles.com, the essential repository for Mac games.

Regularly updated since first appearing in 1996, Cricket has developed into a very playable, fun game. It isn't is a graphically-intensive simulator – in fact, the graphics are quite blocky above a 640-x-480 screen size even though the game now runs natively under Mac OS X.

What it is, though, is a highly enjoyable, almost arcade approach to the game. Select two of the nine sides available, toss the proverbial coin and bat or bowl accordingly. As a batsman, you have one option: hit the ball using the mouse to control the bat. Miss it, and you're likely to be bowled.

As the bowling side you get to position your fielders, choose the bowlers and then control the bowling direction via the Mac's keypad and the speed/spin through the arrow keys.

The 2004 edition has a number of new features including up-to-date team lists and the ability to edit players' names. Yes, you can now open the batting for England. There's also a new radar tracker that still needs a bit of work – but it's an interesting addition.



Macworld's buying advice

Cricket 9 has some nice touches – you'll probably duck the first time a bouncer whistles past your head. The crowd noise and bowler animations are quite realistic, as are the electronic display – which now shows the speed of the last ball bowled – and the third umpire for those controversial close-decision playbacks.

Simple to play? Yes. Boring? No!

Nine down, one to go

England are in all sorts of trouble against the Windies at 28 for 9, chasing a modest target of 37. Can Freddie Flintoff see the side home?

Cricket is one of those games that will have you coming back for just one more ten-over quickie to try to get the better of those Aussies…

Vic Lennard

Visually, this game is a delight. Players will experience DVD-quality movie footage (including never-before seen clips); and enjoy interviews with some of the main players from the film. The characters and environments of the movie have also been developed to furnish gamers with a cinema-like experience, and the storyline remains close to the movie and the classic books on which that movie is based.

But it's no cakewalk. The game developers had a choice with this title: create a tame movie tie-in offering fantastic visuals but no real challenge; develop a game that would challenge younger players; or, recognizing the mass appeal across age groups of the film, create a rewarding experience that combines a strong storyline with real challenges, even for experienced gamers. They chose the latter course, though the game does focus on mêlée-based combat throughout.

Take the beginning: Dawn at Helm's Deep and Gandalf leads the fortune-changing flank attack that saw tainted wizard Saruman's bid for power end. You come in fighting from the off – so learn the controls before you begin. As freedom's wizard, you'll find yourself assailed by brutish orcs, intent on your destruction. Get ready. The action is fast, and you have a lot to do to save the day.

Once you pass through level one, the action splits into three tracks: one features Gandalf in a series of bloody combats that grow increasingly more challenging. Another lets players choose one of Gimli, Legolas or Aragorn (King of Middle Earth) in a series of demanding levels as the three struggle to save the day at Gondor. The third track features Sam (and Frodo) in the quest to destroy Sauron's evil ring of power.

The game designers have made an excellent compromise between the needs of the storyline and those of gameplay: playable characters begin at level one, with limited hit points and abilities. As they progress, they gather experience points that can be exchanged for character upgrades and which translate into higher levels. As characters gain experience levels, they can acquire new abilities. A nice twist here – some abilities are character-specific, while others can be applied to the entire fellowship. While the latter cost more, this represents a good way to strengthen other characters to help them progress through their game tracks.

The game assesses skill at dispatching foes: the less your enemy hurts you, the better the skill – Fair, Good, Excellent and Perfect. These are totted-up at every level. If Gandalf kills all those orcs perfectly he will benefit from bonus experience points.

The game has hidden features, levels and characters. You unlock these as you progress, gaining extra playable characters and levels as you go along. You also unlock movie clips, interviews and more. You get the secret characters when you complete the game, after Frodo and Gollum's difficult stand-off at the Crack of Doom. The final, secret level requires that you complete all the levels with a Perfect rating. As I said, it's no cakewalk.

Success in this game is all about control. Like many console ports, players may find themselves frustrated by these. Don't shoot Aspyr – the game remains excellent and engaging. No, this time the fault is with Apple. The company hasn't developed adequate Mac OS X system-level support for external interfaces specifically for gamers. While I'm told that may change this year, the current position is that third-party game controllers (mostly based on the PlayStation/Xbox interface) aren't yet adequately supported by Apple.

Despite those failings, I was able to complete this game, which makes up for it not being the lengthiest title in the world by its sheer difficulty. But whoever said it would be easy to save an innocent world from the imperialistic ambitions of an enemy that wants to kill all living creatures?

Macworld's buying advice

There have been Lord of the Rings games before. In fact, some may argue that the games industry owes a massive debt to J R R Tolkien's modern classic trilogy, as the introduction of paper-&-pencil fantasy role-playing games in the years before computers helped prove that there can be more to gaming than Pac Man, Breakout and other arcade classics. I'm sure this won't be the last Lord of the Rings title – I'd still welcome a modern Mac strategy title combining RPG elements, for example – but this title's breathtaking levels, intelligent use of movie clips and superb character animation set it apart.

The fact that the game is difficult to win only adds to its appeal for yours truly, as the sense of achievement you get as you overcome its obstacles really add to the experience. I think this title should appeal to a wide range of ages, and I hope will please both fans of the movie and those who just want to explore the world of the original books a little.

Jonny Evans

Middle Earth gaming

The Lord of the Rings: The Return of the King

Publisher: Aspyr www.aspyr.com
Distributor: Softline, 01293 827 900
Pros: Beautiful graphics and engaging game-play that will appeal to fans of both the movies and the books.
Cons: Difficult; Apple should build support for third-party game controllers into its OS.
Min specs: Mac OS X 10.2.6; G4 800MHz (1GHz or faster recommended); 256MB RAM; 2.2GB hard-drive space; ATI Radeon 7500/NVidia GeForce 2; 32MB VRAM; DVD drive.
Price: £39.99 including VAT.
Star Rating: ★★★★/8.9

Learning the ropes

Challenging? As Chris Tarrant says, "It's only easy if you know the answer". You will find yourself meeting impossible odds – Gandalf defending the walls of Minas Tirith, for example. With such fast-paced action, players will have a hard time exploring the level to find solutions to the problems they face.

Game hint: *Gandalf should use the ropes to get around, and that catapult may come in handy too. I won't offer more hints in this review, but if you do have a problem making it through, leave a message on Macworld's forum, and I'll tell you what to do.*

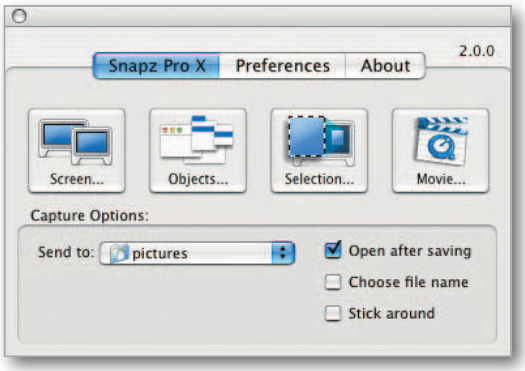
Mac gems

- Snapz Pro X
- Trans Lucy
- Rating Bar
- Little Snitch
- DVDxDV

Screen savings

Top shareware products to enhance your Mac. By Dan Frakes

Mac OS X includes ways to take screen captures, but as with many other built-in features of the operating system, third-party products improve on the basics. Here we present must-have utilities to soup-up your system.



Celluloid hero
The new Snapz Pro X 2.0 lets you capture anything on your screen – even if it's moving.

Movie magic
Who says you can't work and watch a movie at the same time? With Trans Lucy, you can.

Snapz Pro X 2.0 (screenshot-only version, $29; movie version, $69; upgrade, $20; **www.ambrosiasw.com**) lets you capture an entire screen, objects (singly or in groups), or a selected area, in most common file formats (TIFF, JPEG, and PDF, to name a few). You can include borders and watermarks, create thumbnail icons, and choose colour depth and compression levels. Some of these features have been around for a while, but the new Live Preview mode lets you see exactly how your screenshot will look, including all the options you've applied, before you actually take it – a big time-saver.

The improvements to Snapz Pro X's image-capture component alone make it worth its price. But what will blow you away is its movie-capture ability, which has been significantly improved since version 1.0. You can now record full-motion video and audio (the latter from your Mac, an external mic or input, or both) of action on your Mac's screen, at up to 30 frames per second in millions of colours.

When finished recording, choose the video-compression format from QuickTime-compatible codecs, along with frame rate, colour depth, and data rate (useful for creating smaller videos for the Web or for email messages), as well as audio-compression settings. You even get a real-time preview of the movie as it's being rendered, something the app does very quickly.

Snapz Pro X's interface has also been substantially overhauled; it's now easier to perform basic actions, but you still have quick access to more-advanced features. If you need to capture your screen, Snapz Pro X 2.0 is the tool to use.

Readily transparent

Speaking of your screen, if you've ever tried to watch a DVD while working, you know that unless you have multiple displays, it's a constant battle for screen real estate. Either you have to keep switching back and forth between your work and DVD Player windows, or you need to make one or both windows so small that you can't really see either very well.

CE Software has taken an interesting approach

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to this problem with its $15 **Trans Lucy 1.0.1** (★★★★/7.4; **www.cesoft.com**). Using OS X's Quartz Extreme technology in ways Apple probably never imagined, Trans Lucy makes your movie translucent and sticks it right on top of your other work – you can still see, and use, other applications through the haze of your movie. (Note that your video card must support Quartz Extreme for translucency to work.) If you want to temporarily view the movie in all its glory, simply move the mouse over the Trans Lucy controller. And if having your movie on top of other windows isn't your thing, you can instead choose to view it floating over your desktop but behind other applications.

Trans Lucy's controller offers most of the features of Apple's DVD Player and adds jog dials for opacity and scrubbing. (If you have a mouse with a scroll wheel, you can use the wheel to control those functions.) You can also control the player via user-defined hot keys.

Trans Lucy gives new meaning to the term multitasking – and it's an impressive demonstration of the power of Quartz Extreme, combined with a bit of ingenuity.

Cast your vote

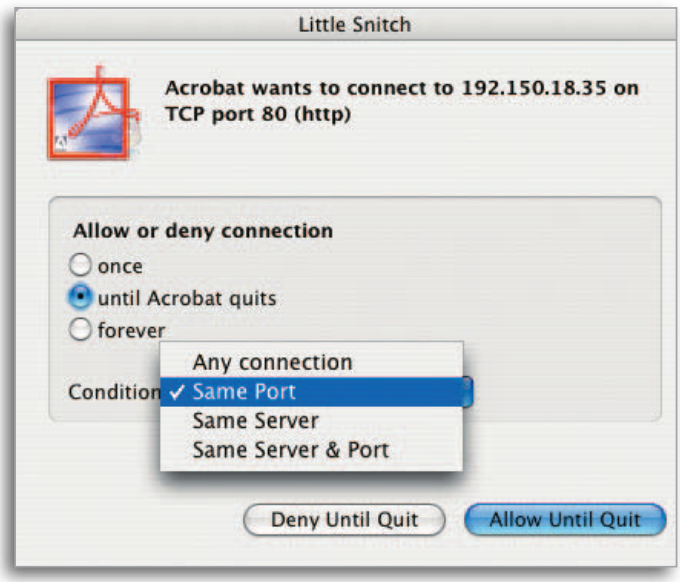
Rating Bar is the easiest way to rate iTunes tracks.

First rate

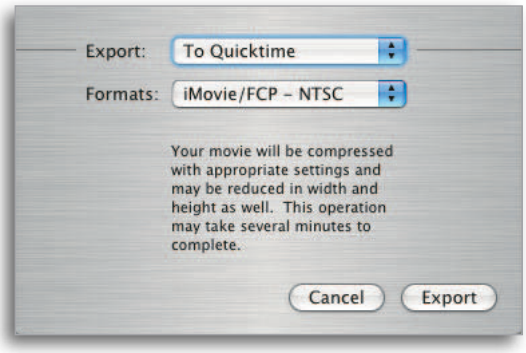
I can be somewhat obsessive when it comes to rating my iTunes songs, mainly because ratings can be used in smart playlists. However, setting the ratings for songs can be a hassle – even iTunes' Dock menu requires a couple of steps. Beverage Software's $5 **Rating Bar 1.1** (★★★★/8.1; **www.beveragesoftware.com**) is just what I was looking for. It displays the rating (if there is one) of the current track in the menu bar – just click on a star to set or change the song's rating. One cool way to use it is to create a smart playlist in iTunes that consists of unrated songs, and then use Rating Bar to rate each song as it plays.

I smell a rat

Little Snitch tells you everything that's going on behind your back.



DVD restoration


Export:
To Quicktime
Formats:
iMovie/FCP – NTSC
Your movie will be compressed with appropriate settings and may be reduced in width and height as well. This operation may take several minutes to complete.
Cancel
Export

DV recovery

Using DVDxDV, you can recover video from iDVD projects deleted long ago.

You used iDVD to create a disc a few years ago, and now you'd like to spruce that DVD up with a new theme or some additional titles. Or perhaps you'd like to use its video in another movie, but you no longer have the DV files on your hard drive. Because of the way in which DVD-Video discs are put together, you can't just copy files off the disc and reuse them. You could recapture all the material (assuming you still have the tapes) and start from scratch, but the $25 **DVDxDV 1.07** (★★★★/8.0; **www.dvdxdv.com**) can extract video and audio from DVDs for editing in Apple's iMovie, Final Cut Express or Final Cut Pro.

To get digital footage back, simply insert the DVD and choose File→Open DVD. DVDxDV will display each track on the disc, and let you preview audio and video contents (though not at the same time). Select a whole track or set in- and out-points, choose Extract: New Movie, and choose the export format – iMovie/Final Cut (either NTSC or PAL) for DV, or Expert, which provides access to all your QuickTime codecs. Then sit back and watch DVDxDV restore the contents of your DVD.

Note that DVDxDV doesn't decrypt commercial DVDs and that you'll suffer a loss in quality when you transcode your video. However, this program may prove to be invaluable when you need to regain otherwise-lost footage. (An $80 Pro version, which offers a number of more-advanced features, is also available.)

Your own whistle-blower

Nowadays it seems as though more and more applications are phoning home – surreptitiously contacting the developer's (or other) servers for various legitimate and not-so-legitimate reasons. In addition, Trojan-horse applications can send a hacker your personal or computer-related data over the Internet.

If these types of things concern or annoy you, Objective Development's $25 **Little Snitch 1.1** (★★★★/8.4; **www.obdev.at**) may put your mind at ease.Little Snitch acts as your own private security guard, watching outgoing network connections. If the app detects a connection attempt that wasn't obviously initiated by you, up pops an alert with the name of the offending application and the IP address and port to which the app is trying to connect. You decide whether to allow or deny the connection – once, until the application quits, or forever. You can also decide whether to apply that decision to just that IP address and port, any port on that server, or the same port on any server – or to allow or deny connections by that application. For example, you may want to give your email client permission to connect to any server, forever, so that it can always get your email, regardless of the email account you check.

Little Snitch takes a bit of patience as you configure it, one connection at a time, to your preferences. But once you get past the initial training, you'll see its dialog box only when an app – good or bad – is trying to connect behind the scenes. **MW**

Laptops loved up

Apple's upgraded iBooks and PowerBooks include more than just improvements to performance, but there's still no G5. By Simon Jary

Apple has updated its entire laptop range of iBooks and PowerBooks. While the changes initially appear superficial there are some compelling advances contained within the technical specifications, surprising performance boosts, and dramatic price reductions of nearly 25 per cent that represent tremendous value combined with the processor and graphics performance increases. Laptop power-users will be disappointed that there's still no sign of a G5 PowerBook, but the latest industry speculation fluctuates between a late 2004 or autumn 2005 launch for that milestone machine to be unleashed on the world.

PowerBook: more speed for less cash

Today's new PowerBooks are certainly noticeably faster than last year's pro laptops, but it's the other internal upgrades that really shine in this new line-up. However, the pumped-up processors grab the headlines.

Performance While the pro desktop Macs have been liberated from the icy thrall of Motorola's glacially evolving G4 processor by IBM's stunningly fast G5, the PowerBook (PB) is beholden to Moto for its speed advances. Apple announced its first 1GHz PB G4 way back in November 2002. For the chip to have taken so long to see a 50 per cent speed hike goes to show the chip's poor rate of advance.

A 1.5GHz G4 is no slouch in itself – it just appears so next to a G5. There will be many owners of older laptops (including G4 PBs) who will be stunned by the guts of a 1.33GHz or 1.5GHz PB. As Macworld's exclusive speed tests prove, the overall performance boost at the top end of the range is around 10 per cent. But certain application scores take giant leaps: Photoshop results are up by a third; and MPEG-2 encoding is 18 per cent faster – see page 76.

Storage options Hard-drive capacities stay much the same, with only the 12-inch PBs seeing a welcome rise from 40GB to 60GB. I don't like to see any Mac that has a disk only as capacious as an iPod. The rest, however, are stuck at either 60GB or 80GB. iBooks and PBs use standard 2.5-inch hard drives, which are currently capped at 80GB. Apple could stick a 3.5-inch desktop 160GB drive in a laptop, but at the unacceptable price of thickness and battery life.

15-inch and 17-inch PBs purchased via build-to-order can be fitted with a faster 80GB hard drive spinning at 5,400rpm, and 12-inch models can be bought with 4,200rpm 80GB disks. As with any Mac, it's easy to add an external hard disk via FireWire for your iMovies or gargantuan iTunes music library. 120GB costs about £130.

The SuperDrive in Apple's new laptops has been enhanced from 1-speed (1x) performance to 4x. This update brings them into line with desktop SuperDrives, and so another portable/desktop compromise issues is removed.

Graphics Apple has improved the PBs' graphics cards. In the 12-inch PBs, the video RAM (VRAM) on the NVidia GeForce FX Go 5200 doubles in size to 64MB – allowing for better video performance and greater game compatibility. The 15- and 17-inch models swap ATI's Radeon 9600 for the 9700. Searching through ATI's technical specifications, the differences seem minor. The 9700 features double the graphics-accelerating chip's number of parallel rendering pipelines and parallel geometry engines. In the simplest of terms, the 9700's engine and memory clock speed is higher than the 9600. Delving deeper into the tech specs, ATI utilized a low-k dielectic process with the 9700 chip – its copper wiring reduces heat and power consumption, which enables the higher clocks.

VRAM for the 15-inch and 17-inch PBs remains at 64MB, but you can order a 128MB 9700 for an extra £40 via build to order. If graphics (especially 3D) and gaming are high on your list of priorities, this will be £40 well spent – upgrading a laptop's video card isn't possible later on.

Expansion There's no change on PB (or iBook) ports. If you want access to – or future support for – 800Mbps FireWire devices on a portable, you'll still need either a 15-inch or 17-inch PB. There still aren't many such peripherals on the market, and the Mac's USB 2.0 will support more devices for the foreseeable future.

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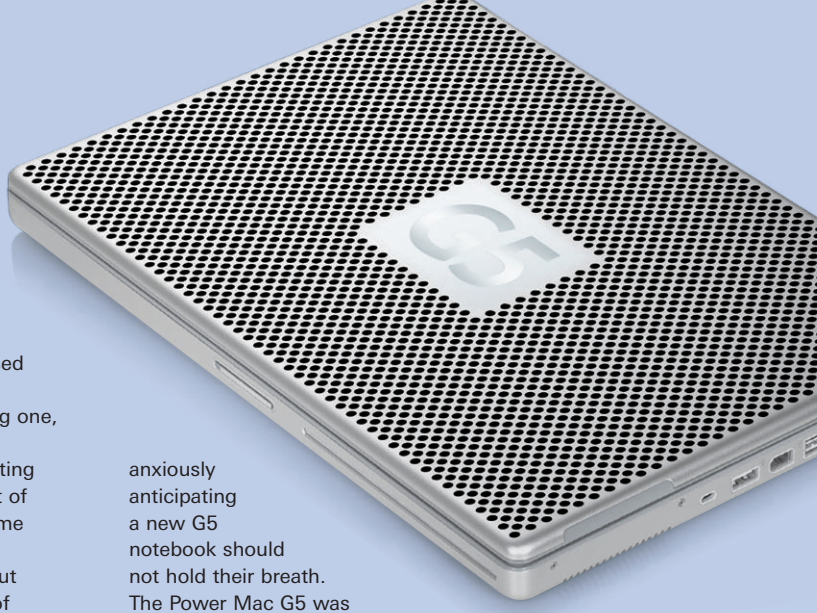
Countdown to PowerBook G5



The arrival of faster PowerPC G4 processors is welcome news for Apple's portable users, but an expected launch date for a G5-based PowerBook is what many have been waiting for – credit card in sweaty hand. The now high-end 1.5GHz G4 is some 13 per cent faster in terms of raw processor speed than the previous top-performing laptop chip (1.33GHz), but that's nothing compared to the potential promised by the portable-G5 holy grail. However, the wait for a bunker-busting G5 PowerBook is likely to be a long one, a senior Apple executive has revealed.

Apple vice-president of hardware product marketing Greg Joswiak recently told the BBC: "The G5 is part of our long-term processor road map, but it will be some time before that processor will be in a notebook."

Of course, Apple is unlikely to start chatting about the possibilities of G5 portability – otherwise sales of the mid- to high-end laptops will stop dead in their tracks. But the technical difficulties of getting a G5 into Apple's slimline smart PowerBooks are great enough for the wait to drag for some time to come.

Back in November 2003 Dave Russell, director of product marketing for portables and wireless at Apple, said the company "would like" to fit one of its powerful new G5 processors in a PowerBook – if it can figure out how to keep the machine cool enough to operate reliably. "We think the G4 has a very long life in the PowerBook," he told Computerworld.

The main hurdle in getting a G5 processor into a portable is the need to keep the processor cool, he said. "Have you looked at the inside of the G5 tower?"

Russell was referring to Apple's Power Mac G5, which has nine internal fans, a redesigned airflow and other cooling techniques used to keep those machines from overheating. Even the initial 12-inch PowerBook G4 ran too hot for many. Apple had to completely re-architect the heat management in those machines – adding a thermo-coupler on the hard drive.

When talking to Macworld at last September's Apple Expo in Paris, Jon Rubinstein, senior vice president of Hardware Engineering at Apple, conceded that the possibility of a G5 PowerBook was simply "an issue of good, solid engineering". He made it clear that the current crop of G5 processors are designed for desktop machines, and a cooler-running version of the processor would be needed for a PowerBook. But he did point to the fact that a few years ago, nobody thought it would be possible to get a G4 processor in a PowerBook.

However, Joswiak has pointed to the historical two-year gap between the launch of Apple's first desktop G4 Macs and the release of G4 PowerBooks, signaling that Mac users anxiously anticipating a new G5 notebook should not hold their breath. The Power Mac G5 was announced in July 2003 – pointing to a late 2005 launch.

One pointer that Apple is serious in its attempts to get the hot G5 into the tiny PowerBook enclosure is January's launch of the Xserve G5 – which boosted some Apple server speeds by as much as 60 per cent. The heat-generating nature of the G5 processor was solved here by use of a copper heat sink to remove heat from the processors, and employment of eight high-performance airflow fans. The latter are individually managed and monitored by a dedicated fan-control processor. If a single fan fails, the others speed up to compensate. It holds over 30 sensors that monitor critical system functions, with eight dedicated to watching the heat.

Yet some microprocessor experts posit the release of a G5 PowerBook "this year". Microprocessor Watch editor-in-chief Peter Glaskowsky, who attended briefings with Apple in January, says: "In announcing the new Xserve G5, Apple glossed over what we consider the most interesting fact about the new system: it represents the debut of IBM's 90nm (nanometer) PowerPC 970FX."

This new generation G5 offers one crucial advantage against the G5 currently used in the Power Mac. The latter processors were made using IBM's 130nm manufacturing process. This different manufacturing method means the new G5 has a maximum power consumption of 55W at 2GHz, down from the 90W of the current Power Mac chip. "We expect to see new G5 desktops soon, with faster processors, and G5 laptops later in the year", he said.

IBM has already revealed that the 970FX offers power-management features – meaning a processor capable of speeds of 2GHz could be clocked down, in order that it generate less heat in use.

400Mbps FireWire, which like USB 2.0 is on all Macs, is still the best connection standard. Despite USB 2.0's claim for a slightly faster 480Mbps connection, FireWire remains superior on several levels – including speed. While having a lower maximum bandwidth, FireWire has a higher sustained transfer rate. In most cases FireWire 400 will still beat USB 2.0 in terms of raw data-transfer.

USB also requires more processing overhead from the host CPU, whereas FireWire can do its thing without a CPU's direct involvement. Unlike USB, it provides both isochronous and asynchronous transfers. And FireWire can also be used for high-speed TCP/IP networking that can exceed the speed of even Gigabit Ethernet.

Wireless Previously only the top-end 15-inch and 17-inch PBs included built-in AirPort Extreme. Other laptops had to have a £79 card added. Now all PBs include both AirPort Extreme and Bluetooth built-in.

Prices While the technical specifications aren't earth-shattering, the price reductions are enticing. The 17-inch PB sees a hefty cost cut of nearly 25 per cent – its £1,949 price-tag is £50 less than the previous top-end 15-inch model. If these slashed prices were announced on their own, church bells would be ringing. The fact that they're combined with the above-mentioned feature enhancements means this new laptop line-up is top value.

While we're waiting for the PowerBook G5 (see above), these new pro Mac laptops are both feature-attractive and temptingly priced for owners of older PowerBooks.

iBook

Apple pushed its consumer notebook up a giant notch last year when it swapped the G3 processor for a meatier G4 chip, alongside a next-generation memory system. On the wireless front, they were the first iBooks to support AirPort Extreme (802.11g) networking, as well as Bluetooth connections to compatible phones, wireless keyboards and mice, and other devices for an additional £35. All of these advances remain in this update to the G4 range. G4 speeds have increased, and there's now a DVD-R SuperDrive option for the 14-inch models.

Text continues page 76
Laptop features, page 72

PowerBook G4 17-inch 1.5GHz DVD-R SuperDrive £1,949 (inc. VAT) ★★★★★/9.0	**PowerBook G4** 15-inch 1.5GHz DVD-R SuperDrive £1,749 (inc. VAT) ★★★★★/9.0	**PowerBook G4** 15-inch 1.33GHz DVD-ROM/CD-RW £1,399 (inc. VAT) ★★★★★/9.1	**PowerBook G4** 12-inch 1.33GHz DVD-R SuperDrive £1,299 (inc. VAT) ★★★★/8.6	**PowerBook G4** 12-inch 1.33GHz DVD-ROM/CD-RW £1,149 (inc. VAT) ★★★★/8.4
CPU	**CPU**	**CPU**	**CPU**	**CPU**
Cache: 512K	Cache: 512K	Cache: 512K	Cache: 512K	Cache: 512K
System bus: 167MHz	System bus: 167MHz	System bus: 167MHz	System bus: 167MHz	System bus: 167MHz
Base RAM: 512MB	Base RAM: 512MB	Base RAM: 256MB	Base RAM: 256MB	Base RAM: 256MB
Max RAM: 2GB	Max RAM: 2GB	Max RAM: 2GB	Max RAM: 1.25GB	Max RAM: 1.25GB
Hard disk	**Hard disk**	**Hard disk**	**Hard disk**	**Hard disk**
Capacity: 80GB	Capacity: 80GB	Capacity: 60GB	Capacity: 60GB	Capacity: 60GB
Speed: 4,200rpm	Speed: 4,200rpm	Speed: 4,200rpm	Speed: 4,200rpm	Speed: 4,200rpm
DVD/CD	**DVD/CD**	**DVD/CD**	**DVD/CD**	**DVD/CD**
DVD write: 4x	DVD write: 4x	DVD write: n/a	DVD write: 4x	DVD write: n/a
DVD read: 8x	DVD read: 8x	DVD read: 8x	DVD read: 8x	DVD read: 8x
CD-R write: 16x	CD-R write: 16x	CD-R write: 24x	CD-R write: 16x	CD-R write: 24x
CD-RW write: 8x	CD-RW write: 8x	CD-RW write: 16x	CD-RW write: 8x	CD-RW write: 16x
CD read: 24x	CD read: 24x	CD read: 24x	CD read: 24x	CD read: 24x
Display	**Display**	**Display**	**Display**	**Display**
Resolution: 1,440-x-900	Resolution: 1,280-x-854	Resolution: 1,280-x-854	Resolution: 1,024-x-768	Resolution: 1,024-x-768
Card: ATI Radeon 9700	Card: ATI Radeon 9700	Card: ATI Radeon 9700	Card: NV GeForce FX 5200	Card: NV GeForce FX 5200
VRAM: 64MB	VRAM: 64MB	VRAM: 64MB	VRAM: 64MB	VRAM: 64MB
Port: DVI	Port: DVI	Port: DVI	Port: Mini-DVI	Port: Mini-DVI
S-Video: 1	S-Video: 1	S-Video: 1	S-Video: £15 adaptor	S-Video: £15 adaptor
Expansion	**Expansion**	**Expansion**	**Expansion**	**Expansion**
USB 2.0: 2	USB 2.0: 2	USB 2.0: 2	USB 2.0: 2	USB 2.0: 2
FireWire 800: 1	FireWire 800: 1	FireWire 800: 1	FireWire 800: 0	FireWire 800: 0
FireWire 400: 1	FireWire 400: 1	FireWire 400: 1	FireWire 400: 1	FireWire 400: 1
PC Card: 1	PC Card: 1	PC Card: 1	PC Card: 0	PC Card: 0
Communications	**Communications**	**Communications**	**Communications**	**Communications**
AirPort Extreme: Built-in	AirPort Extreme: Built-in	AirPort Extreme: Built-in	AirPort Extreme: Built-in	AirPort Extreme: Built-in
Bluetooth: Built-in	Bluetooth: Built-in	Bluetooth: Built-in	Bluetooth: Built-in	Bluetooth: Built-in
Ethernet: 1000/100/10	Ethernet: 1000/100/10	Ethernet: 1000/100/10	Ethernet: 100/10	Ethernet: 100/10
Modem: 56K	Modem: 56K	Modem: 56K	Modem: 56K	Modem: 56K
Keyboard	**Keyboard**	**Keyboard**	**Keyboard**	**Keyboard**
Keys (ISO): 79	Keys (ISO): 79	Keys (ISO): 79	Keys (ISO): 79	Keys (ISO): 79
Backlit: Yes	Backlit: Yes	Backlit: £50 option	Backlit: No	Backlit: No
Audio	**Audio**	**Audio**	**Audio**	**Audio**
Line in: Yes	Line in: Yes	Line in: Yes	Line in: Yes	Line in: Yes
Battery	**Battery**	**Battery**	**Battery**	**Battery**
Lithium-ion: 58W	Lithium-ion: 50W	Lithium-ion: 50W	Lithium-ion: 50W	Lithium-ion: 50W
Life: 4.5 hours	Life: 4.5 hours	Life: 4.5 hours	Life: 5 hours	Life: 5 hours
Dimensions	**Dimensions**	**Dimensions**	**Dimensions**	**Dimensions**
Weight: 3.1kg	Weight: 2.6kg	Weight: 2.6kg	Weight: 2.1kg	Weight: 2.1kg
Width: 39.2cm	Width: 34.8cm	Width: 34.8cm	Width: 27.7cm	Width: 27.7cm
Depth: 25.9cm	Depth: 24.1cm	Depth: 24.1cm	Depth: 21.9cm	Depth: 21.9cm
Height: 2.6cm	Height: 2.8cm	Height: 2.8cm	Height: 3cm	Height: 3cm
Verdict For maximum portable screen space, the 17-inch PowerBook combines power and all the top features in an acceptable format. Due to its weight and relative bulk, frequent travellers should consider the 15-inch models.	**Verdict** This 15-inch PowerBook has both the power and features of the 17-inch, but in a more portable format. The smaller screen is still sizable, and can be hooked up to a larger external screen when you're back at base.	**Verdict** For a little less power and a few less features, this model represents great value – with a SuperDrive option costing £140 extra. At the cost of some minor compromises, this is the pick of the laptops for power, size and features.	**Verdict** The 12-inch PowerBooks are the ideal laptop for portability, and this model's SuperDrive keeps it up there on features. Hook it up to a larger external display (via the included adaptor) back at base for more comfortable viewing.	**Verdict** This most affordable of the PowerBooks is limited only by the lack of a SuperDrive and high-end networking and connectivity features. But if you're after a real budget laptop in a small case, you should consider the 12-inch iBook G4.

iBook G4 14-inch 1.2GHz DVD-R SuperDrive £1,169 (inc. VAT) ★★★★/8.0	iBook G4 14-inch 1.2GHz DVD-ROM/CD-RW £1,049 (inc. VAT) ★★★★/7.8	iBook G4 14-inch 1GHz DVD-R SuperDrive £1,019 (inc. VAT) ★★★★/8.3	iBook G4 14-inch 1GHz DVD-ROM/CD-RW £899 (inc. VAT) ★★★★/8.2	iBook G4 12-inch 1GHz DVD-ROM/CD-RW £799 (inc. VAT) ★★★★/8.5
CPU	**CPU**	**CPU**	**CPU**	**CPU**
Cache: 512K	Cache: 512K	Cache: 512K	Cache: 512K	Cache: 512K
System bus: 133MHz	System bus: 133MHz	System bus: 133MHz	System bus: 133MHz	System bus: 133MHz
Base RAM: 256MB	Base RAM: 256MB	Base RAM: 256MB	Base RAM: 256MB	Base RAM: 256MB
Max RAM: 1.25GB	Max RAM: 1.25GB	Max RAM: 1.25GB	Max RAM: 1.25GB	Max RAM: 1.25GB
Hard disk	**Hard disk**	**Hard disk**	**Hard disk**	**Hard disk**
Capacity: 60GB	Capacity: 60GB	Capacity: 40GB	Capacity: 40GB	Capacity: 30GB
Speed: 4,200rpm	Speed: 4,200rpm	Speed: 4,200rpm	Speed: 4,200rpm	Speed: 4,200rpm
DVD/CD	**DVD/CD**	**DVD/CD**	**DVD/CD**	**DVD/CD**
DVD write: 4x	DVD write: n/a	DVD write: 4x	DVD write: n/a	DVD write: n/a
DVD read: 8x	DVD read: 8x	DVD read: 8x	DVD read: 8x	DVD read: 8x
CD-R write: 16x	CD-R write: 24x	CD-R write: 16x	CD-R write: 24x	CD-R write: 24x
CD-RW write: 8x	CD-RW write: 16x	CD-RW write: 8x	CD-RW write: 16x	CD-RW write: 16x
CD read: 24x	CD read: 24x	CD read: 24x	CD read: 24x	CD read: 24x
Display	**Display**	**Display**	**Display**	**Display**
Resolution: 1,024-x-768	Resolution: 1,024-x-768	Resolution: 1,024-x-768	Resolution: 1,024-x-768	Resolution: 1,024-x-768
Card: ATI Radeon 9200	Card: ATI Radeon 9200	Card: ATI Radeon 9200	Card: ATI Radeon 9200	Card: ATI Radeon 9200
VRAM: 32MB	VRAM: 32MB	VRAM: 32MB	VRAM: 32MB	VRAM: 32MB
Port: VGA	Port: VGA	Port: VGA	Port: VGA	Port: VGA
S-Video: £15 adaptor	S-Video: £15 adaptor	S-Video: £15 adaptor	S-Video: £15 adaptor	S-Video: £15 adaptor
Expansion	**Expansion**	**Expansion**	**Expansion**	**Expansion**
USB 2.0: 2	USB 2.0: 2	USB 2.0: 2	USB 2.0: 2	USB 2.0: 2
FireWire 800: 0	FireWire 800: 0	FireWire 800: 0	FireWire 800: 0	FireWire 800: 0
FireWire 400: 1	FireWire 400: 1	FireWire 400: 1	FireWire 400: 1	FireWire 400: 1
PC Card: 0	PC Card: 0	PC Card: 0	PC Card: 0	PC Card: 0
Communications	**Communications**	**Communications**	**Communications**	**Communications**
AirPort Extreme: Built-in	AirPort Extreme: Built-in	AirPort Extreme: £79	AirPort Extreme: £79	AirPort Extreme: £79
Bluetooth: £35	Bluetooth: £35	Bluetooth: £35	Bluetooth: £35	Bluetooth: £35
Ethernet: 100/10	Ethernet: 100/10	Ethernet: 100/10	Ethernet: 100/10	Ethernet: 100/10
Modem: 56K	Modem: 56K	Modem: 56K	Modem: 56K	Modem: 56K
Keyboard	**Keyboard**	**Keyboard**	**Keyboard**	**Keyboard**
Keys (ISO): 78	Keys (ISO): 78	Keys (ISO): 78	Keys (ISO): 78	Keys (ISO): 78
Backlit: No	Backlit: No	Backlit: No	Backlit: No	Backlit: No
Audio	**Audio**	**Audio**	**Audio**	**Audio**
Line in: via USB	Line in: via USB	Line in: via USB	Line in: via USB	Line in: via USB
Battery	**Battery**	**Battery**	**Battery**	**Battery**
Lithium-ion: 61W	Lithium-ion: 61W	Lithium-ion: 61W	Lithium-ion: 61W	Lithium-ion: 50W
Life: 6 hours	Life: 6 hours	Life: 6 hours	Life: 6 hours	Life: 6 hours
Dimensions	**Dimensions**	**Dimensions**	**Dimensions**	**Dimensions**
Weight: 2.7kg	Weight: 2.7kg	Weight: 2.7kg	Weight: 2.7kg	Weight: 2.2kg
Width: 32.3cm	Width: 32.3cm	Width: 32.3cm	Width: 32.3cm	Width: 28.5cm
Depth: 25.9cm	Depth: 25.9cm	Depth: 25.9cm	Depth: 25.9cm	Depth: 23.0cm
Height: 3.42cm	Height: 3.42cm	Height: 3.42cm	Height: 3.42cm	Height: 3.42cm
Verdict The 14-inch iBooks offer a larger viewing area but no more pixels than the 12-inch laptops. Picture is less squeezed but can show no more information. For the extra weight and price, you should consider the 15-inch PowerBook.	**Verdict** If you don't need a DVD-R SuperDrive, this model is good value for the fastest iBook at 1.2GHz – but the extra size and weight are considerable for a display that offers the only same resolution as Apple's 12-inch laptops.	**Verdict** As the overall performance difference isn't enormous, this DVD-R iBook is great value for money – but again you pay for a more open screen-size with half a kilo in weight and a larger case. The hard drive may be a little cramped, too.	**Verdict** Incredible value for money, but no DVD-R and quite heavy for the display's limited pixel resolution. If you can handle the tighter screen, the 12-inch iBook is even cheaper and a lot more portable in size and weight considerations.	**Verdict** Stunning value and the lightest and most compact iBook – but if you want the ultimate in portability, consider the lighter and smaller 12-inch PowerBook… if you can afford it.

continues page 74

Portable power: New generation of PowerBook G4 and iBook G4

Best results in test.

	Speedmark 3.3 Overall score	Photoshop CS Suite	iMovie 4.0 Render	iTunes 4.2 MP3 Encode	Unreal Tournament Frame rate	Cinema 4D 8.5 3D render
15-inch PowerBook G4/1.5GHz	136	2:00	0:56	2:26	26.1	4:33
17-inch PowerBook G4/1.33GHz	123	2:48	1:02	2:48	25.3	5:06
15-inch PowerBook G4/1.33GHz	121	2:45	1:03	2:45	24.6	5:08
12-inch PowerBook G4/1.33GHz	123	2:45	1:02	2:45	22.3	5:07
14-inch iBook G4/1.2GHz	110	3:07	1:12	3:07	14.9	5:45
14-inch iBook G4/1GHz	102	3:27	1:15	3:27	14.6	6:26
12-inch iBook G4/1GHz	99	3:27	1:18	3:27	14.6	6:25
14-inch iBook G4/1GHz (previous)	92	4:06	1:18	4:06	13.4	7:48
	Longer is best	Shorter is best	Shorter is best	Shorter is best	Longer is best	Shorter is best

Current systems in **bold**. 17-inch PowerBook G4/1.5GHz not available for testing – see next issue. Speedmark 3.3 scores are relative to those of a 1GHz eMac which is assigned a score of 100. Photoshop, Cinema 4D,iMovie, and iTunes scores are in minutes:seconds. All systems were running Mac OS X 10.3.3. All but the iBook 14-inch 1GHz reference system were tested with 512MB RAM. The reference iBook has 128MB built in and only one slot. To even the playing field, we installed a 512MB DIMM and then created a 128MB RAM Disk. We tested MP3 encoding with an audio-CD track that is 45 minutes long, converting it from the hard drive using iTunes' Better Quality setting. We used Unreal Tournament's Antalus Botmatch Average Frames Per Second score, tested at a resolution of 1,024-x-768 pixels. The Photoshop Suite test is a set of 14 scripted tasks using a 50MB file. Photoshop's memory was set to 75% and History was set to Minimum. For more information on Speedmark 3.3 visit **www.macworld.com/speedmark** – **Macworld Lab testing by Jim Galbraith and Jeffy Milstead.**

Performance As we noted in our review of the original G4 iBooks, the speed increases from G3 to G4 ranged from modest in some operations to dramatic in others – particularly with software that takes advantage of AltiVec (a special set of features that speeds up certain tasks commonly used by graphics and multimedia applications). In our Speedmark benchmark tests on the first G4 iBooks, the 1GHz iBook G4 outscored the fastest previous iBook, which had featured a 900MHz G3, by about 21 per cent overall. But if you look at the individual tests that score is based on, the improvement was much more substantial in some cases: rendering an iMovie and encoding a song in AAC format were 30 per cent to almost 40 per cent faster on the 1GHz G4.

Surprisingly, the speed bumps in this second set of G4 iBooks is of the same order as G4 vs G3. Today's entry-level iBook marks the end of the MHz in any Mac processor specifications, sporting a 1GHz G4 – the same chip as the previous high-end iBook. The new top-end iBook's G4 reaches 1.2GHz – a 20 per cent rise in chip speed that's borne out in our tests. iTunes encoding is up by 32 per cent; AltiVec-intensive Cinema 4D by a rollicking 36 per cent.

The first G4 iBooks saw the amount of on-chip Level 2 cache drop from 512K on the G3 iBooks to 256K. Cache is where the Mac stores its most frequently used data to save it having to go back and forth to the slower memory or comparatively lethargic hard disk. This new set of iBooks reverts to 512K, and this increase is as influential as processor speed for the much-boosted performance.

The iBooks will still be the slowest Macs available. This isn't surprising as the attraction of the iBook is its compact, portable form-factor. The presence of the faster G4 processors ensure that while today's iBook isn't the fastest Mac around, it is a more than capable OS X machine that weighs just 2.2kg (12-inch model).

Storage options Even more exciting is the introduction of a DVD-R option to the 14-inch iBooks. Previously, the iBook was the only Mac not to offer the iDVD-friendly DVD burner. Now you can opt for a SuperDrive for an extra £120 (including VAT). This is great value for the capability to burn discs that play in standard domestic DVD players, although it is a little slower than the default DVD-ROM/CD-RW drive at regular CD duties (see table on previous page for full specifications). The laptop SuperDrive now writes at 4x rather than the previous 1x.

Hard-drive sizes stay the same, from 30GB to 60GB. If you plan to use iMovie and iTunes a lot, you may find the 30GB disk a little cramped. You can ask for a 60GB disk in even the entry-level iBook for just £60 more (recommended), or add external FireWire hard disks.

Specifications The top-end 14-inch differs from its predecessor by having an AirPort Extreme Card built in. Otherwise, this is a £79 option in the other iBooks. Another change is the maximum RAM allocation that Apple says the iBook can handle. Previously, Apple stated that the iBook could take just 640MB – the 128MB built in, plus a 512MB DIMM memory upgrade. Since 1GB DIMMs have been available, iBook owners have been able to stretch this to 1.13GB – not that Apple was telling anybody. Now that the iBooks come with 256MB of RAM built-in, the addition of a 1GB DIMM allows for 1.25GB. Maxing the RAM on an iBook will cost you £420 via the Apple Store or £275 through online resellers such as Crucial (**www.crucial.com/uk**). An extra 512MB – for a total of 768MB – costs £80 from Crucial, but remember that if you want to add more later you'll have to throw the non-built-in DIMM away to fit the new one. If you buy third-party RAM, make sure it has been tested and certified for the iBook G4. We discovered that generic RAM, even if it appears to be compatible, can cause a variety of problems.

Price Probably the best thing about the updated laptop line-ups are the price reductions. The entry-level 12-inch 1GHz iBook G4 now starts at £799 (including VAT), which is £50 less than the old 800MHz model and a whopping £400 less than the previous (and slower) 1GHz iBook. The days of portability being only for those with deep pockets are gone. £799 makes this iBook model one of the least expensive Macs ever – whether desktop or portable.

The 14-inch iBooks are more expensive, but £150 isn't too much to pay to opt for the top-end 1.2GHz model rather than the 1GHz 14-inch model – especially as it includes the £79 AirPort Extreme Card.

Size The iBook is the most portable of Apple's laptops, but its two sizes may confuse. There is only one 12-inch model, which weighs just 2.2kg and measures 28.5cm wide by 23cm deep and 3.42cm high. For the larger screen you pay a little extra in cash but a lot more in dimensions. The 14-inch iBooks weigh half a kilo more at 2.7kg, and stretch measurements to 32.3cm wide and 25.9cm deep.

This would be acceptable if the 14-inch models offered more screen space than the 12-incher. But you can fit only the same number of pixels (1,024-x-768) on the 14-inch as you can on its smaller, lighter, cheaper brother. Because the screen is physically bigger the icons and text will be large (which is a bonus if your sight is poor), but you'll fit no more information onto the bigger screen.

Having two 14-inch iBooks and only one 12-inch model appears a misguided strategy for a compact laptop range. Apple has decided to push customers who want the neatest, smallest package to its PowerBook range .

Macworld's buying advice

The processor speed bumps may appear insignificant, but Macworld's speed tests demonstrate otherwise: with some scores up by 33 per cent and more. Other updates, such as the 4x SuperDrives, are welcome. And at these prices, you can afford to buy now and wait for the second round of G5 PowerBooks in a couple of years. **MW**

Are you about to rekit your design studio, or want to set yourself up as a freelance designer? Here's what products you should be buying this summer.

By Alistair Dabbs

The designer's

Putting together the right tools for professional design is more of a challenge than you might at first expect. If you're a millionaire, no problem: just buy everything. For the rest of us, though, every pound or dollar spent needs to be justified for its commercial return. There's little room for non-essentials. So over the next few pages we've put together a guide to the very latest core products you need across a generic range of graphics applications, whether starting out as a lone designer or refreshing the equipment in an existing studio.

What you won't find in the sections that follow, however, is a range of hardware suggestions for which Mac to buy. Our view is that graphics work demands the best you can afford. A properly devised hardware budget should be able to accommodate the latest G5-based Macs – otherwise you risk making false economies on kit with shorter remaining lifespans. That's not a criticism of the huge numbers of readers out there successfully still using G4-based Macs for live work; merely a question of logic – would you prefer to be still using a G4 two years from now?

For this reason, we can't recommend the eMac, iMac, iBook or PowerBook for intensive design work, all of which have limited potential for upgraded specifications and are all exclusively G4-based.

Currently, your choice of professional design computers from Apple comprises a single-processor 1.6GHz Power Mac G5, a dual-processor 1.8GHz Power Mac G5, or a dual-processor 2GHz Power Mac G5. The dual-processor models will not double the performance of all your software – probably very little of it in fact – but in the field of graphics they can make the difference where it really counts. Several Photoshop filters, for example, are accelerated when two processors are available in the system box, as are certain video, audio and 3D applications should you decide to branch out from the basic design setups described here.

With regard to system memory, no one whose profession is graphics should consider less than 1GB; in fact we recommend 2GB or more. Apple's dual-processor Macs support up to 8GB. A similar story applies to hard-disk storage: although 80GB is a lot of storage space, go for the 160GB or 250GB options instead. With lots of hard-disk space, you can keep copies of CD-based image libraries at your fingertips for instant browsing and selection, and it allows you to experiment more with special media such as uncut video, raw audio and large scans without having to archive or dispose of them as soon as a job's finished, simply to release disk space. Yet another reason to choose big hard-disks is that fitting a large amount of system memory automatically swallows up more disk space as an inevitable side-effect of the virtual memory technology within Mac OS X.

Better still, opt for two internal drives. Certain graphics software programs operate their own virtual memory caches often known as 'scratch disks'. Assigning a blank drive as a scratch disk normally produces better performance because then the virtual memory cache is not forced to dance around the fragmented file structure on your main hard disk. Adobe Photoshop, for example, lets you assign up to four scratch disks, although any of these can be a partition volume instead of a physically separate disk drive if you prefer.

With your base unit, memory and internal storage chosen, it's simply a matter of mixing and matching appropriate peripheral hardware with the right software programs to produce the perfect designer's toolkit.

Price guide

Apple Power Mac G5 1.6GHz: £2,107.23
Apple Power Mac G5 Dual 1.8GHz: £2,381.28
Apple Power Mac G5 Dual 2.0GHz: £2,721.70
(All fitted with 2GB RAM and 250GB hard drive; prices exclude VAT)

toolkit

Illustration and natural-media designer

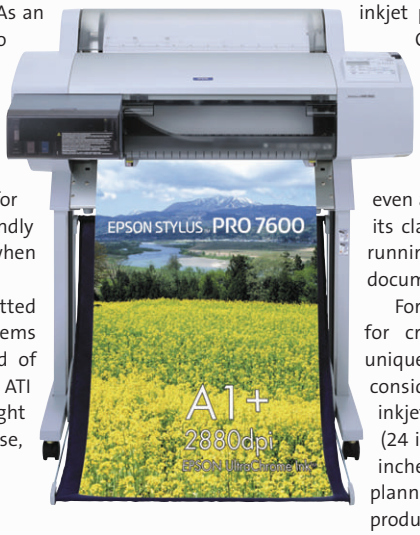
In this category, your work consists of creating and adapting visual artwork. You may be a digital artist or jobbing illustrator producing anything from original fine-art to technical diagrams, and the work may be reproduced in a variety of ways. The emphasis is on preserving your natural creativity and artistic skill within the bounds of a digital canvas.

HARDWARE

Display

The obvious choice is an Apple 20-inch Cinema Display, a flat-screen LCD monitor supporting a native resolution of 1,680-x-1,050 pixels. The larger 23-inch Cinema HD model might seem attractive because of the larger screen space and higher resolution (1,920-x-1,200 pixels) but it's nearly 60 per cent more expensive. As an alternative to Apple, you may also want to consider the Formac Gallery 2010, a 20-inch LCD display sporting a more conventional 4:3 ratio and a resolution of 1,600-x-1,200 pixels. This product is available with either a moulded ADC cable (exclusively for Macs) or a DVI cable (equally friendly for PCs and Macs) – you choose when buying.

The standard graphics card fitted in the latest Power Mac G5 systems should be acceptable for your kind of work, although an upgrade to an ATI Radeon 9800 Pro 128MB card might be advisable if you work on dense, multilayered compositions.



Input

No artist wants to ditch pencils and brushes for a mouse, so buy a Wacom pen tablet. Wacom is not the only Mac-compatible tablet manufacturer, but it is without question the best for artists and designers. Most artists should be happy with a Wacom Intuos2 A5, while those who like to paint with more flourish will find the A4 model more suitable. Most artists find that pen tablets any bigger than this are clumsy and counter-productive. The Intuos2 range is complemented by a choice of special styluses including a pleasantly fat airbrush and a ballpoint-fitted ink-pen stylus.

Wealthy digital artists might want to examine Wacom's Cintiq 18SX, a combined pen tablet and 18.1-inch LCD display. This lets you work intuitively with the stylus directly on-screen which itself can be positioned upright like a monitor, flat on the desk like a tablet, or even rested on your knees if you prefer. Bear in mind, however, it offers a resolution of only 1,280-x-1,024 pixels.

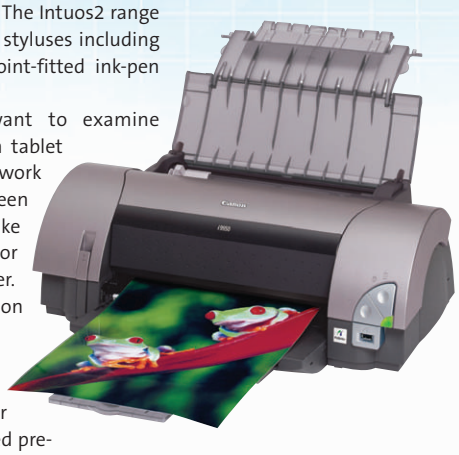
Printer

Size and quality are important for illustrative output whether you just need pre-production design proofs or intend producing a small number of commercial prints. For most purposes, an A3+ inkjet photo printer should do the trick. Our choice of the moment is the Canon Bubble Jet i9500, an eight-colour device supporting an output resolution (on appropriately coated paper) of up to 4,800-x-1,200dpi and completely borderless prints even at A3 size. It's also a fast printer for its class, so it will be equally useful for running off rough drafts and for general document printing purposes.

For printouts larger than A3, especially for creating commercial posters and unique artwork for framing, you could consider a floor-standing large-format inkjet such as Epson's Stylus Pro 7600 (24 inches wide) or Stylus Pro 9600 (44 inches wide). However, unless you're planning on daily throughput for these products, the initial price and running costs of large-format printing are almost certainly not worth the trouble – take your files to a colour shop for output instead.

Scanner

A good quality A4 flatbed scanner will suit your work best, for capturing images and textures to be incorporated into



Bubbling under
The Canon Bubble Jet i9500 is a speedy printer for its class, making it equally useful for rough drafts and general document printing.

Larging it
The large-format Epson Stylus Pro 7600 (left) is designed for quality, oversized output, such as posters, but the initial outlay and cost of consumables means it's likely to be cheaper taking your work to a professional colour shop.

continues page 78

Big deal
The La Cie Big Disk offers 500GB of storage and dual FireWire 400 and 800 interfaces.

artwork and for digitizing pencil underlay sketches and the like. The Microtek ScanMaker 6100 supports 48-bit capture at up to 3,200-x-6,400dpi resolution and incorporates a small but useful 4-x-5-inch transparency adaptor for scanning the occasional slide or negative. It also comes with LaserSoft SilverFast SE for versatile image correction during the scan process, plus automatic scratch and dust removal.

Artists wanting to include photographic images in their artwork might want to consider buying a semi-professional digital camera such as Nikon's Coolpix 8700. This fixed-lens SLR-style camera boasts 8-megapixel capture and inevitably high-resolution results (3,264-x-2,448 pixels) while at the same time being much easier to use than the meatier SLRs coming onto the market.

Storage

It is doubtful whether illustrators have the patience to spend hours every week conscientiously backing up their files to CDs and DVDs, nor necessarily have the will to mess around with complex tape-backup drives. Instead, we recommend you invest in one big external hard drive and back-up to that at high speed instead. Try the so-called Big Disk from LaCie, which acts as a single 500GB drive with dual FireWire 400 and 800 interfaces. Being external, you can unplug it when the backup routine has completed and lock it away or take it home with you.

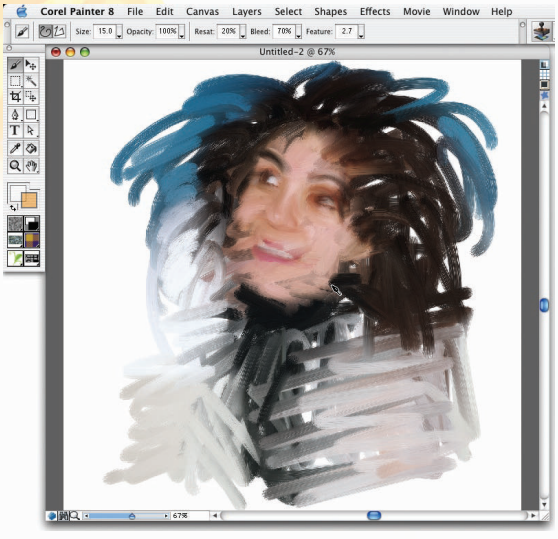
SOFTWARE

Essentials

Every illustrator needs at least the basic combination of a vector drawing package and a bitmap paint (or photo-editing) package. You can take the Macromedia approach by buying FreeHand MX for illustration and Fireworks MX 2004 for bitmap graphics: the advantage of keeping with the same software brand is that the program interfaces appear similar and the two work together more smoothly. Alternatively, the Adobe approach would have you buying Illustrator CS and Photoshop CS, the special advantage being that Photoshop is considerably more powerful and versatile than the smaller Macromedia Fireworks. The Adobe packages are more expensive, however, so it's cheaper to buy the pair as part of the Creative Suite Standard Edition.

One more essential package for digital artists is Corel Painter 8, which lets you paint on-screen with realistic natural-media brush strokes on virtual textured canvases. It isn't the most intuitive program around, but no other program on the Mac platform comes close to Painter's bristly brushes, crumbly crayons, dirty felt-tips and so on.

Paint job
Corel Painter 8 allows the user to create natural-looking brush strokes on a wide array of canvasses.



Extras

To extend the natural-media toolset, Creature House Expression 3.1 produces similar results to those of Painter but as vector artwork. This means you can paint with realistic-looking brushes, pencils and so on, but the strokes remain re-editable as vectors.

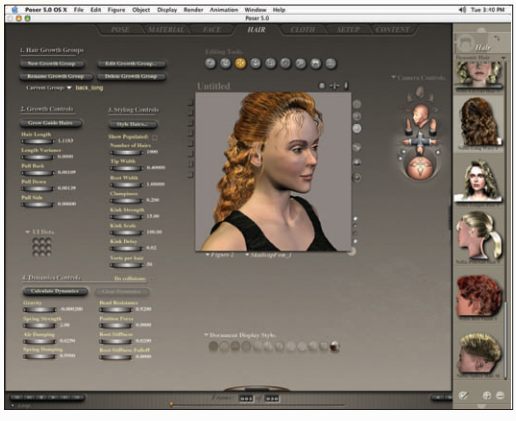
Another popular program used by illustrators is Curious Labs Poser 5. As a 3D program for generating photo-realistic human figures, an illustrator can use it to quickly put together scenes containing people, while fine-artists can use it as a digital equivalent of a wooden ergonome, or indeed a simplified substitute for a live model.

The more avant-garde creative designer might like to try Synthetik Software's Studio Artist 3.0. This program lets you paint, draw and rotoscope on source images and video files, then re-render the results in new styles to single graphics or animations.

Plug-ins

If you choose to buy Adobe Photoshop CS, you can extend its capabilities by investing in third-party plug-ins. Although most of these are now intended to suit a specific purpose (page curls, picture frames, lighting effects and so on), some of the older plug-in suites provide a range of wild and weird visual effects that a digital artist may enjoy experimenting with. Two examples that spring to mind are Alien Skin Eye Candy 4000, which includes effects such as chrome, fire, smoke and wood, and Corel KPT Collection, which brings together some of the finest

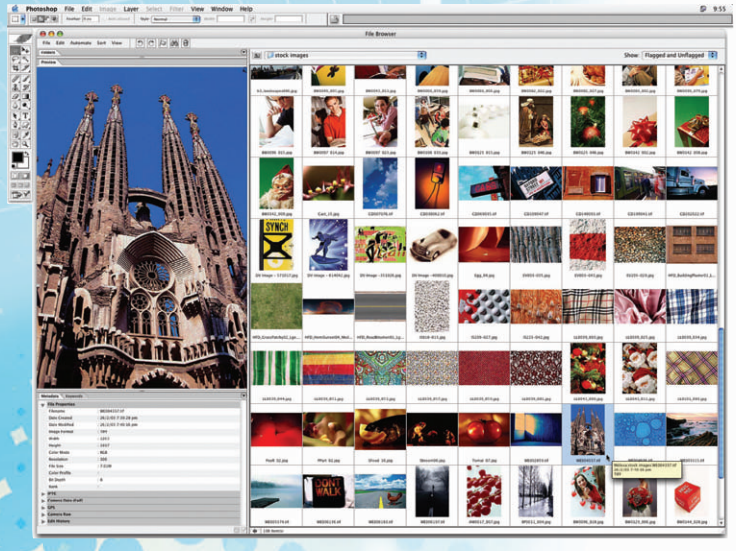
Bit of a poser
Poser 5 is a 3D program for generating photo-realistic human figures



Budget alternatives

When trying to keep a cap on prices, it's best to downsize rather than sacrifice quality. So, for example, choose a high-quality A4 inkjet such as the Canon Bubble Jet i990 instead of a wide-format inkjet, while also resisting the temptation to choose a throwaway home printer. Otherwise, simply switching LCD displays for CRT monitors will save you a bundle. For example, the NEC-Mitsubishi Diamond Plus 2070SB is a 22-inch flat-screen CRT monitor supporting 1,600-x-1,200 resolution but costing only about half the price of LCD equivalents. You can also pick up inexpensive flatbed scanners – that still offer just enough quality for general use, such as Canon's CanoScan 3200F, a fast 1,200dpi scanner with transparency adaptor, but priced like a bargain-basement product.

A cheaper alternative to Wacom's Intuos2 pen tablets is Wacom's Graphire3 Studio, an A6 tablet that incidentally includes a valuable copy of Adobe Photoshop Elements 2.0: buying Photoshop Elements 2.0 is an acceptable alternative to the full Photoshop CS for the tight-fisted. Corel Knockout 2 makes a good alternative to Mask Pro for making clean image cut-outs at only one third of the price, and can be run as a standalone program. Unfortunately, decent vector drawing and photo-editing programs never come cheap – but ADC Canvas 9 professional Edition represents a very powerful challenger to Macromedia and Adobe, putting both graphic toolsets into one package, and adding the ability to use bitmap filters on vector elements.



CS, ta

The advantage of Photoshop CS is that it is more powerful and versatile than the smaller Macromedia Fireworks. The disadvantage is that it is more expensive.

moments of the 1990s hit series of Kai's Power Tools.

A copy of Extensis Mask Pro 3 may also be useful if you intend compositing objects from various source images into layered artwork. This plug-in lets you produce clean cut-out selections around even complex outlines as well as setting virtual transparency attributes for glass and other translucent objects.

Utilities

While most commercial image libraries are now available online, it's always a good idea to keep a set of royalty-free stock images handy on CD. Some of the most varied (and surprisingly cliché-free) are found within the Hemera Photo-Objects 50,000 Volumes 1, 2 and 3 collections of ready-to-go cut-out images.

Express yourself

For A3+ scanning we recommend the Epson Expression 1640XL, a model that offers 1,600dpi optical resolution and 42-bit capture.

Graphic designer

The role of graphic designer may involve creating original artwork but is principally concerned with visual document layout, most typically (but not exclusively) destined for print. Some work may end up in electronic documents and on the Web, even though you aren't strictly a Web designer. As well as working with graphics programs you're more heavily involved in production tasks, preparing pages for professional output and even though the prepress process.

HARDWARE

Display

Pretty though they are, LCD displays are still behind CRT monitors when it comes to stable colour accuracy. A graphic designer who needs to manage colour with precision is likely to be better off with a large, professional-class CRT display such as the LaCie Electron22Blue IV. This is a 22-inch flat-screen monitor supplied with a plastic hood for reducing glare, and supporting resolutions up to 2,048-x-1,536 pixels. It is also compatible with LaCie's BlueEye Vision calibrator that, plugging into the monitor itself, ensures hardware-level colour calibration of the electron guns.

Monitor wizard

LaCie's Electron 22Blue IV is ideal for those who take vvascreen colour integrity

An alternative is the Sony Colour Reference System, comprising a 21-inch Trinitron CRT display with hood plus a CRS calibration sensor. It costs much more than most calibrated CRT monitors, but is geared up for the challenging job of soft proofing (on-screen evaluation of print colours).

Input

Pen tablets aren't just for artists and illustrators. For graphic designers, we recommend the smaller Wacom Intuos2 tablets, specifically the A5 or A6 models. Although the A6 sounds perhaps a bit too small with its 4-x-5-inch active tablet area, it suits designers with restricted space but accurate hand movement. Both models are supplied with a stylus and Intuos mouse, so you can work both ways.

Printer

If possible, we recommend you buy two printers: one for general checking of output, and another to act as a full-on wide-format proofer. The general-purpose printer should ideally be a fast network-friendly device for the whole studio, so we suggest buying an A4 colour laser such as the Lexmark C510n. As well as being speedy at 30 pages per minute (8ppm colour), it produces some of the cleanest photos and gradient tones yet seen on a colour laser. Ethernet support and PostScript emulation come as standard in this model.

Our choice for the wide-format proofer is HP's recently launched DesignJet 120. This multiformat device can print to A3+ cut sheets from a cassette, single A1+ sheets directly, or to a full-width roll feed (a trimming knife is fitted to the printhead). The wide format makes it especially appropriate for producing double-page spreads, while the roll feeder means you can even run off tabloid spreads, basic A4 imposition flats, posters, large portfolio sheets and presentation materials for block mounting.

Scanner

Pro-quality A3 scanning is such a small market that few new products have appeared in recent years. For this reason, we recommend the still-current Epson Expression 1640XL, an A3+ flatbed supporting 1,600dpi optical resolution and 42-bit capture. The large scanning plate lets users digitize sketches, posters, newspapers and a wider variety of textured materials than can not normally be crammed onto an A4 scanner. If you prefer the compact styling of an A4 scanner, try Epson's ultra-high quality Perfection 4870 Photo which supports 4,800dpi capture with automatic dust removal and includes a transparency adaptor.

When choosing a digital camera for serious design applications, pick one of the new breed of sub-£1,000 SLRs just now hitting the market. One such is the Nikon D70 Kit, which is certainly well featured and complicated enough to suit the most ardent of photo enthusiasts while also supporting swappable lenses and 6-megapixel capture.

Storage

As before, the best kind of backup storage for designers is the kind that's fast and requires no maintenance or watching over. For the huge files you will amass, nothing less than LaCie's Big Disk Extreme 500GB will do. If your storage needs are even bigger, try the appropriately named LaCie Bigger Disk which is an unprecedented 1TB (one terabyte) external drive with three interfaces: FireWire, 800 and USB 2.0. This product won a Best of Show award at the last Macworld Expo, and is reviewed on page 59).

Utilities

Professional designers should take the trouble to ensure that their studios are colour-managed correctly. Use a sensor such as the Pantone ColorVision Spyder Pro to calibrate all the monitors. Even better, buy it as part of the Colour Confidence Studio Pro pack, which includes a

A4 route

The Lexmark C510n is an A4 colour printer that's speedy and produces some of the cleanest photos and gradient tones yet seen on a colour laser.

full-colour reference image in print and on CD. The most effective do-it-yourself print profiling solution around at the moment is Print Profiler, also from Colour Confidence. This can be purchased as a bundle with a choice of sensor units, from cheaper handheld devices to automated spectrophotometers. All of these products create unique custom ICC profiles for your colour devices according to in situ lighting conditions, paper stock and so on.

SOFTWARE

Essentials

Every professional graphic designer should be armed with a copy of Adobe Photoshop CS plus a vector illustration program and a page-layout program. The easy choice is to buy Adobe Creative Suite Standard Edition, which comprises Photoshop CS, Illustrator CS and InDesign CS. If your work involves generating Adobe PDF files at any point, you ought to pick up a copy of Adobe Acrobat 6.0 Professional too. Acrobat, along with the Web-editing package GoLive CS, is included in the slightly more expensive Adobe Creative Suite Premium Edition.

You may have other preferences, of course, such as Macromedia FreeHand MX instead of Adobe Illustrator CS. Also, it is likely that you will need a copy of QuarkXPress 6.1 as well as InDesign because of its prevalence in the design and prepress markets. Note that multilingual documents require the more expensive Passport Edition of QuarkXPress; multilingual support is already built into InDesign CS as standard.

Extras

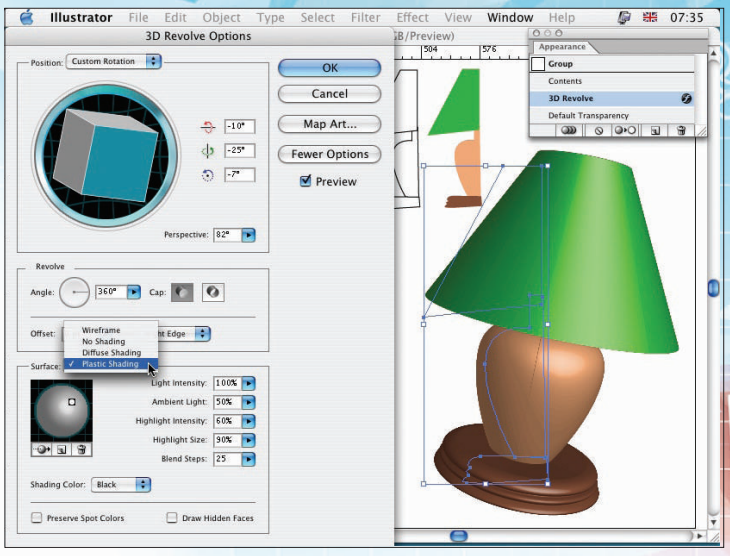
Buy yourself a copy of Markzware FlightCheck Professional 5 to stay on top of all your layouts, images, fonts, PDF attributes and other source files and formats. If you are in charge of managing the digital workflow itself, consider investing in FlightCheck Workflow 3.1. It's not the most advanced workflow solution on the market but it happens to be one of the cheapest, and its one-size-fits-all approach keeps it simple to set up.

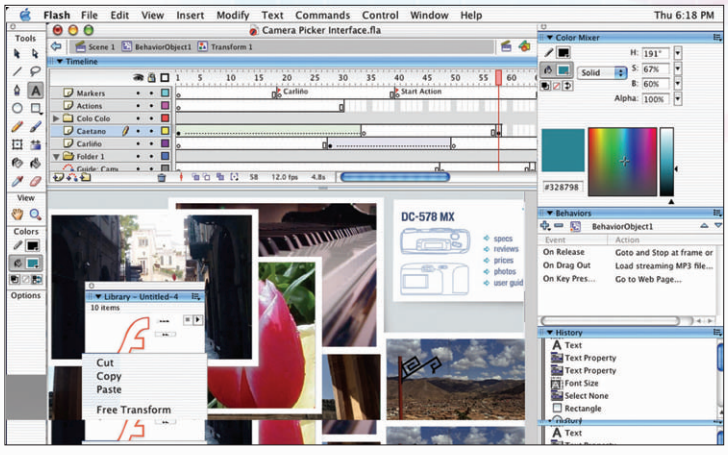
Plug-ins

There are thousands of XTensions available for enhancing QuarkXPress. One of the most useful is Badia BigPicture 2.0, which puts a media manager window at your fingertips right within the program, complete with Photoshop-like browsing thumbnails. Another is ALAP ShadowCaster 3.2, which creates not just soft drop shadows but advanced transparency effects with blending modes, helping QuarkXPress pitch against InDesign on a level playing field.

Adobe InDesign CS itself is so well-featured that plug-in developers are struggling to come up with something new – but two products stand out. InEffects from ALAP again lets you apply and edit shadow, glow, bevel and emboss effects within InDesign using a Photoshop-like interface. Woodwing Smart Styles makes it possible to save complex object formatting as named styles – not unlike the way you can in Adobe Illustrator – so they can be applied elsewhere in your InDesign layout with one click.

Similarly, there's massesPhotoshop plug-ins, but one that's easy to recommend is Alien Skin Xenofex 2. This set of 14 filters creates jigsaw effects, flag ripples, TV distortion and more.





Above, top

Professional graphic designers should own Adobe Photoshop CS plus a vector illustration program – with the easy choice being Illustrator CS, which is included with Photoshop in Adobe's Creative Suite.

Utilities

In a studio environment, get yourself a robust font manager such as Suitcase X1 or Font Reserve 3.1, both from Extensis. On the other hand, if you're working alone, you may survive perfectly well using Apple's free Font Book program. Another handy utility to keep with you is Code Line's Color Consultant Pro, a comprehensive on-screen colour wheel selector.

continues page 82

Above

For generating Flash effect use Macromedia Flash MX 200 – although advanced Web designers should buy the more expensive Flash MX Professional 2004 as it offers more control over coding.

Budget alternatives

Designers working in print have very little choice other than to buy the full version of Adobe Photoshop CS since the cut-down Elements version does not support CMYK images. That said, you can do a lot with ADC Canvas 9 Professional Edition, even though it's sold as a technical-design package. Every designer, cheapskate or otherwise, should also own a copy of Lemke Software's Graphic Converter for making quick edits to any image as well as ensuring you can open any picture file format your customers are ever going throw at you. Try to stick with a decent quality A4 scanner such as the Epson Perfection 1670 Photo, and at least an A3 inkjet printer such as the Epson Stylus Photo 1290S. As before, you can save money by buying a Wacom Graphire3 pen tablet instead of the professional Intuos2 range without sacrificing too much functionality

Web designer

This job has you straddling two worlds: one of the designer and one of the programmer. This means all your design tools need to be geared-up specifically for strict Web content, while your HTML-editing software needs to be design-friendly. Because the publishing medium is online, your graphics hardware does not need to be quite as extreme as for other design work.

HARDWARE

Wide thing
The screen real-estate offered by the wide-ratio Apple 20-inch Cinema Display is helpful for working with palette-heavy interfaces.

Display

Although most Web page designs are supposed to be small in area, the software you will be working with inevitably fills the screen with tool palettes, code listings and dialog windows. Choose the Apple 20-inch Cinema Display or Formac's alternative Gallery 2010, as previously suggested for illustrators. The Apple model's wide ratio is particularly helpful for palette-crazy interfaces. You may, however, want to run a second monitor from your Mac so that you can proof the same Web pages simultaneously on a CRT display. An inexpensive 17-inch monitor such as the Samsung SM753S will do.

Input

Web design does not benefit greatly from using a pen tablet. If you're looking for Web-enhancing input devices, try Logitech's Internet Navigator Keyboard Special Edition. Although it's really for Web users than Web designers, it does come with some handy functions such as a scroll wheel and Back button, customizable shortcut keys, and control buttons for multimedia playback. You may also want to invest in a Logitech MX700 Cordless Optical Mouse, partly for the scroll wheel and partly for the programmable buttons, not to mention the cordless freedom. The Internet Navigator keyboard is not yet available in a cordless model for the Mac.

Optical allusion
As well as freedom from wires the Logitech MX700 Cordless Optical Mouse offers a scroll wheel and programmable buttons.

Printer

Compared with print design, Web design is inverted: you proof on paper while the result is on-screen rather than the other way around. It isn't necessary, therefore, to spend a great deal of money on large-format devices or photo-quality inkjets, nor indeed on ultra-fast output. Instead, go for a reliable A4 network colour laser workhorse such as the Xerox Phaser 6100V/DN. This product is fast enough at 5ppm in colour, it has enough memory at 64MB, and the print quality is certainly good enough. If you can't fit your Web designs onto an A4 sheet, you aren't designing them as well as you ought.

Scanner

The tiny size and low resolution of Web images suggest that any old scanner will do. In practice, though, you still need decent-quality capture – otherwise you'll end up with small, low-resolution images that also happen to look terrible. The HP ScanJet 5500c incorporates a small transparency adaptor and even a photo print feeder tray for automated scanning, and produces good scans for reducing to Web size. For an even cheaper alternative, try the Canon LiDE 80, an ultra-slim A4 scanner using CIS technology (instead of CCD) but which still allows you to scan the occasional film transparency.

Scan can
The HP ScanJet 5500c has a transparency-adaptor and a photo print feeder tray for automated scanning.

Choose a compact digital camera that's easy to use and manages to capture decent images with the minimum of fuss. Our initial choice would be the Canon Digital IXUS 500, a 5-megapixel device which is now the new flagship of the company's successful Digital IXUS range.

Storage

Web design tends not to leave your disk filled with huge images, but rather litters it with lots of fairly small files. Also, Web-design data tends to be a little more mobile and independent of desktop computers because it's often uploaded to a remote server anyway to check its performance as part of the development process. Because of the smaller sizes and the mobility of the data, you might be best served with a ruggedized, portable hard drive such as LaCie's famous PocketDrive that is now capable of holding up to 80GB. Of course, there's no harm in buying LaCie's Big Disk for the network as well.

SOFTWARE

Essentials

The most popular Web-design package around is, of course, Macromedia Dreamweaver MX 2004. As with QuarkXPress for print, Dreamweaver is the program that colleagues and customers will expect you to be using. It also integrates well with the other MX products from Macromedia. It makes sense, therefore, to work with Fireworks MX 2004 to edit and prepare images for inclusion in your Web pages, and perhaps FreeHand MX as your preferred vector illustration package for creating original resizable artwork, buttons and so on.

At some point you will want to start generating Flash effects, so buy a copy of Macromedia Flash MX 2004. Advanced Web designers should buy the more expensive Flash MX Professional 2004 edition instead because it offers more control over coding, among other features. At this point, all the Macromedia products start to mount up, so save yourself some money by buying the Macromedia Studio MX 2004 (or the Studio with Flash Pro option, which includes all these mentioned programs.

Adobe lovers might feel more at home with Adobe GoLive CS as their preferred Web design package, although this program has not been the rip-roaring success the company had expected it to be.

Its most attractive feature is the integrated fashion in which it works with the other Creative Suite programs, supporting native file formats placed on the Web page layouts directly from Illustrator, Photoshop and ImageReady (the Web graphics element of Photoshop). GoLive CS also enjoys unique integration with InDesign and the Adobe PDF format to allow visual repurposing of print documents using simple drag-&-drop techniques. For this reason, it's probably best to go the whole hog and buy Adobe Creative Suite Premium Edition, which includes all these programs together.

Extras

It should go without saying, but you should gather together as many different Web browsers as possible so that you can

test your sites across them all. Your core set should include Microsoft Internet Explorer, Netscape Navigator, Apple Safari, Opera (**www.opera.com**), Mozilla (**www.mozilla.org**) and iCab (**www.icab.de**).

The serious Web designer should also be prepared to get their digital boots muddy by weeding and cultivating good HTML. Because of this it's advisable to buy a copy of BBEdit 7.1, a Web-friendly text editor complete with line numbering and tag colour coding, which resolutely refuses to cock-up edited code with any platform-specific characters and formatting.

Utilities

There are endless utilities for specific little jobs in Web development, but let's stick with the design aspect. Keep a copy of GraphicConverter handy for dealing with strange image formats you encounter and for opening, editing and saving images in less time than it takes Photoshop CS to launch. Also consider buying Microsoft Virtual PC for Mac, which will let you preview your Web sites in various Web browsers under Windows.

You may in fact want to dedicate a second monitor to Virtual PC purely for this very purpose. Virtual PC will also allow you to test the appearance of Web sites under other operating systems such as the various flavours of Linux. The product is available as a raw PC emulator. Alternatively, it can be purchased with a special bundled copy of Windows XP Home Edition. **MW**

Budget alternatives

A cheaper and undeniably friendlier alternative to both Macromedia Dreamweaver and Adobe GoLive is SoftPress FreeWay Pro 3.5. This program follows many of the interface conventions and keyboard shortcuts found in QuarkXPress, which endears it to print designers, but is a powerful, professional-class Web editor just the same. For an even cheaper alternative, try the cut-down version, FreeWay Express. Macromedia has recently relaunched its Contribute 2 product as a potential low-end Web site creation package, when it had originally been developed as a client-based Web-page content-updating utility. Sure enough, you can use template pages to build a site up from scratch using Contribute, but it isn't really a design package.

To accompany your Web-editing program you need a graphics package for preparing all your images. Again, the most appropriate purchase is Macromedia Fireworks MX 2004, although you can save money by sacrificing the clever layout features and opting for a simple image processing program such as Lemke's GraphicConverter. However, there are plenty of other, smaller Web graphics utilities available. One to recommend is the Stone Studio suite from Stone Design. The suite includes a Web photo-gallery formatter, an image slicer, a GIF animator, a PDF optimizer and a full-on vector-illustration program.

Price guide

ADC Canvas 9 Professional Edition – £256
ADC Systems, 001 305 596 5644, www.deneba.com
Adobe Acrobat 6.0 Professional – £395
Adobe Creative Suite Premium Edition – £949
Adobe Creative Suite Standard – £789
Adobe GoLive CS – £335
Adobe InDesign CS – £609
Adobe illustrator CS – £435
Adobe Photoshop CS – £515
Adobe Photoshop Elements 2.0 – £65
Adobe, 0870 606 0325, www.adobe.co.uk
ALAP InEffects – £56
ALAP ShadowCaster 3.2 – £56
ALAP, 001 888 818 5790, www.alap.com
Alien Skin Eye Candy 4000 – £129
Alien Skin Xenofex 2 – £72
Alien Skin, 001 919 832 4214, www.alienskin.com
Apple 20in Cinema Display – £892
ATI Radeon 9800 Pro 128MB graphics card – £262 (Apple upgrade from standard NVIDIA GeForce)
Badia BigPicture 2.0 – £50
Badia Software, 001 416 752 3339, www.badiaxt.com
BB-Edit 7.1 – £99
Bare Bones Software, 001 781 687 0700, www.barebones.com
Canon Bubble Jet i990 – £299
Canon Bubble Jet i9950 – £467
Canon CanoScan 3200F – £59
Canon Digital IXUS 500 – £288.51
Canon LiDE 80 – £118.30
Canon, 08705 143 723, www.canon.co.uk
Code Line Color Consultant Pro – £20
Code Line Communications, 001 818 884 8379, www.code-line.com
Colour Confidence Studio Pro – £245
Colour Confidence, 0800 0735 845, www.colourconfidence.com
Corel KnockOut 2 – £48
Corel KPT Collection – £64
Corel Painter 8 – £312
Corel, 0800 376 9271, www.corel.co.uk
Creature House Expression 3.1 – £90
Creature House, 001 852 2697 8993, www.creaturehouse.com
Curious Labs Poser 5 – £289
Curious Labs, 001 831 462 8902, www.curiouslabs.com
Epson Expression 1640XL – £1,699
Epson Perfection 1670 Photo – £75
Epson Perfection 4870 Photo – £349
Epson Stylus Photo 1290S – £271
Epson Stylus Pro 9600 – £4,495
Epson's Stylus Pro 7600 – £2,395
Extensis Font Reserve 3.1 – £56
Extensis Mask Pro 3 – £140
Extensis Suitcase X1 – £56
Extensis, 01604 636300, www.extensis.com
Formac Gallery 2010 – £879
Formac, 020 8996 5770, www.formac.co.uk
Hemera Photo Objects 50,000 Vol 1/2/3 – £59 each
Hemera, 001 819 772 8200, www.hemera.com
HP DesignJet 120 – £974
HP (DesignJets), 0845 270 4222, www.designjet.hp.com
HP ScanJet 5500c – £240
HP, (printers and scanners), 0870 010 4320 www.hp.co.uk
LaCie Big Disk – £389
LaCie BlueEye Vision Calibrator – £279
LaCie Electron22Blue IV – £499
LaCie PocketDrive 80GB – £249
LaCie, 020 7872 8000, www.lacie.com/uk
Lemke Software GraphicConverter 5.0 – £20
Lemke Software, 00 49 5171 72201, www.lemkesoft.com
Lexmark C510n – £645
Lexmark, 08704 440 044, www.lexmark.co.uk
Logitech Internet Navigator Keyboard Special Edition – £25
Logitech MX700 Cordless Optical Mouse – £51
Logitech, 020 7309 0127, www.logitech.com
Macromedia Contribute 2 – £99
Macromedia Dreamweaver MX 2004 – £339
Macromedia Fireworks MX 2004 – £249
Macromedia Flash MX 2004 – £419
Macromedia Flash MX Professional 2004 – £579
Macromedia FreeHand MX – £229
Macromedia Studio MX 2004 – £699
Macromedia Studio MX 2004 with Flash Pro – £779
Macromedia, 01344 458 600, www.macromedia.com/uk
Markzware FlightCheck Professional 5 – £279
Markzwware FlightCheck Workflow 3.1 – £614
Markzware, 00 31 70 307 2977, www.markzware.com/europe
Microsoft Virtual PC for Mac 6.1 – £85
Microsoft Virtual PC for Mac with Windows XP Home Edition – £135
Microsoft, 0870 6010 100, www.microsoft.com/uk
Microtek ScanMaker 6100 – £170
Microtek, 0870 906 3304, www.microtek.nl
NEC-Mitsubishi Diamond Pro 2070SB – £485
NEC-Mitsubishi, 08701 201 160, www.nec-mitsubishi.com
Nikon Coolpix 8700 – £765
Nikon D70 Kit – £850
Nikon, 0800 230 220, www.nikon.co.uk
Pantone ColorVision Spyder Pro – £175
Print Profiler bundle – from £495
QuarkXPress 6.1 – £1,095
QuarkXPress 6.1 Passport Edition – £1,365
Quark, 0800 1787 8275, www.quark.co.uk
Samsung SM753S – £69
Samsung, 0870 242 0303, www.samsungelectronics.co.uk
SoftPress FreeWay Express – £52
SoftPress FreeWay Pro 3.5 – £140
Sony CRS Colour Reference System – £1,699
Sony, 08705 168 648, www.sony-cp.com
Stone Studio – £167
Stone Software, 001 505 345 4800, www.stone.com
Synthetik Software Studio Artist 3.0 – £215
Synthetik Software, 001 415 762 9452, www.synthetik.com
Wacom Cintiq 18SX – £2,312
Wacom Graphire3 Studio – £90
Wacom Intuos2 A4 Regular – £305
Wacom Intuos2 A5 – £199
Wacom Intuos2 A6 – £129
Wacom Intuos2 Airbrush – £100
Wacom Intuos2 Ink Pen – £65
Wacom, 00 49 2151 36140, www.wacom.co.uk
Woodwing Smart Styles – £99
Woodwing Software, 00 31 7561 43400, www.woodwing.com
Xerox Phaser 6100V/DN – £529
Xerox, 0800 787 787, www.office.xerox.xom

(All prices exclude VAT)

Handy iPod tricks

Change the battery, smart playlists, and more. By Christopher Breen

Making the difficult seem easy is one of Apple's strengths. Take iTunes, the iTunes Music Store, and the iPod. Their intuitive interfaces let us organize, buy, and play music effortlessly. Yet each of these products has hidden powers.

We'll reveal some of those powers and show you how to use them to your advantage. We'll also take you through the tricky process of replacing an iPod battery when it loses its powers.

continues page 88

Smarter playlists

The never-heard playlist Select New Smart Playlist from iTunes' File menu and configure the top row of pop-up menus to read Play Count Is 0. If you like, enable the Limit To option and limit the songs in your playlist by number of songs, duration of playlist, or cumulative size (10GB, for example). Enable the Live Updating option so that when a song has been played once, it's removed from the playlist.

Once your music library grows past 1,000 songs, managing it can be awkward. But Apple provides an effective organizational tool – the Smart Playlist feature.

The mini playlist When Apple's iPod mini eventually makes it out of the US and into international hands, many of us will have to get used to squeezing our multi-gigabytes of music into a smaller space – something we haven't had to do since the 5GB and 10GB iPods.

When you plug an iPod mini into a computer that contains an iTunes library larger than the mini's 3.7GB capacity, iTunes offers to create a playlist that contains a subset of the tunes on your computer. The drawback is that when iTunes creates it, it doesn't consider file size.

AIFF files devour 10MB of stereo audio per minute; AAC files encoded at 128 Kbps are about 7 per cent of this size. Because the mini's storage capacity is limited, you'll probably want to bar huge files from being automatically placed on the mini.

To separate the storage-hungry stuff, rate your songs or albums. Choose File: New Smart Playlist. Select Match All Of The Following Conditions and Live Updating. Then create a smart playlist with these conditions:

- Kind Is Not AIFF Audio File
- Kind Is Not WAV Audio File
- Kind Is Not Audible File
- Kind Is Not QuickTime Movie File
- My Rating Is Greater Than 3 Stars
- Limit To 3,500 MB Selected By Album

Making the difficult seem easy is one of Apple's strengths. Take iTunes, the iTunes Music Store, and the iPod. Their intuitive interfaces let us organize, buy, and play music effortlessly. Yet each of these products has hidden powers.

We'll reveal some of those powers and show you how to use them to your advantage. We'll also take you through the tricky process of replacing an iPod battery when it loses its powers.

iPod carry case

Cocoon

Manufacturer: STM
www.standardtm.com.au
Distributor: AM Micro
01392 426 473
Pros: Protective shell and transparent sleeve; cool design.
Cons: Bulkier than most cases.
Price: £19.95 (excluding VAT).
Star Rating: ★★★★/8.0

There are many different cases you can buy for the iPod. Apple's own is the sleekest – but has a highly suspect belt-clip that is prone to spill your £400 digital-music player onto the pavement at any time, and is closed so you can't use the controls without removing it from the case.

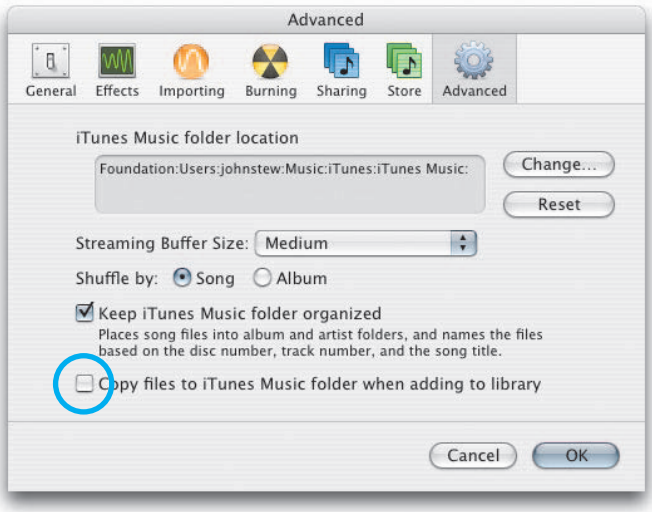
Most others let you use the touch controls without removing the iPod, and are plain leather affairs with safe pop buttons. I've used

Review continues page 90

One iPod, multiple Macs

Many households include a network of Macs, and those Macs often contain different music collections. Why hop from computer to computer to download that music onto a single iPod? You can move all the music stored on your computers from a central Mac. Here's how:

1. Plug your iPod into the Mac you normally connect it to.
2. Mount the volumes from the networked Macs that contain the music you'd like to move to your iPod.
3. Now launch iTunes and select Preferences from the iTunes menu.
4. Click on the Advanced tab and disable the Copy Files To iTunes Music Folder When Adding To Library option.
5. Select the Add To Library command from iTunes' File menu.
6. In the Add To Library dialog box that appears, navigate to the mounted volume and then to a folder full of music files. This folder may be the iTunes Music folder but can be any volume or folder that contains music files compatible with iTunes and the iPod (even files on a Windows PC). Note that if you're running Mac OS X, you must have sufficient privileges to access this folder.
7. Click on the Choose button, and pointers to the music files within the selected folder will be added to your iTunes library.
8. Select Update iPod from the iTunes File menu. All the files in your iTunes libraries (even those on remote volumes) will be downloaded to your iPod.

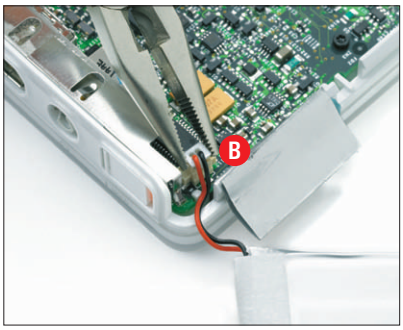


Replace your battery

You can fully recharge lithium-ion batteries, such as the one inside the larger iPods, 300 to 400 times before they give up the ghost. When that ghost is gone, you need a new battery. For £79 including VAT, Apple will replace the battery in an out-of-warranty iPod (**www.apple.com/support/ipod/service/battery.html**).

Or you can perform this operation yourself with a replacement battery – which costs around £29 including VAT – from outlets such as MDS (**www.mdsbattery.co.uk**).

This operation will void your warranty and, if performed improperly, could destroy your iPod. Before you try it, reset your battery monitor by completely draining the battery and then recharging it. (The following instructions do not apply to the iPod mini.)



First-generation iPod

1. Press and hold the play button to turn off the iPod. Engage its Hold switch so it won't turn on.
2. Hold the iPod upright, facing you. Take the tool that shipped with your battery-replacement kit, insert it between the FireWire port and that port's symbol, and push forward toward the iPod's corner (A).

The corner of the back plate should pull slightly away from the front.

3. With the tool wedged between the back case and the front, continue pushing around the corner and down the side of the iPod, working the back plate away from the front. Remove the back plate when it's free.
4. The battery sits just under the back plate, atop the hard drive. It's held in place by sticky pads. To dislodge the battery, you must apply some force. While doing so, hold the hard drive in place with your fingers. If you don't, the hard drive is likely to pull up along with the battery, damaging its data connector.
5. Fold the battery away from the iPod so you can access the hard drive without pulling on the thin battery cables.
6. Gently pull the drive away from the top of the iPod. When the top and bottom pads are free, detach the drive's data connector by grasping it and gently pulling the drive away from the connector.
7. Grasp the battery connector on the circuit board (B) with a pair of needle-nose pliers and gently pull up to detach it.
8. Using the replacement battery, reassemble the iPod, making sure that the wires of the new battery are out of the way (so the back plate doesn't pinch them).

Second-generation iPod

The procedure for replacing the battery in a second-generation iPod – the iPod that sports the same scroll-wheel controller as the original iPod but, unlike the first iPod, includes a cover for the FireWire port – is almost the same as the preceding procedure. Here are the differences:

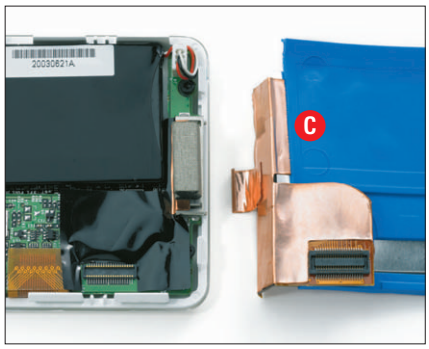
1. The back plate wraps around the top of these iPods, so you can't wedge them open from the top corner. Instead, insert your tool about halfway down the side and then run it around the case.
2. The battery is held in place with a piece of silver tape. Detach this tape from the battery.
3. You can detach the battery connector without removing the hard drive. When you lift the battery away from the hard drive, the connector will be in plain view.

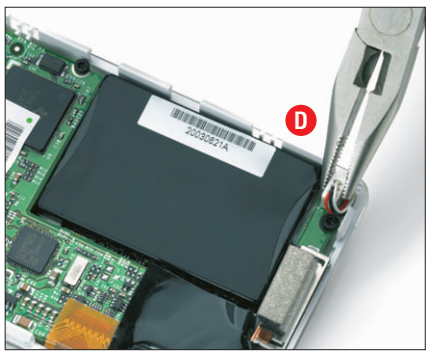
Third-generation iPod

1. Turn off the iPod and engage its Hold switch so it doesn't turn on while you're working on it.
2. Hold the iPod flat, with its face up, and insert a very small, thin flathead screwdriver between the metal back and the acrylic lip of the iPod, six centimetres (just less than 2.5 inches) from the top right side of the iPod, creating a space large enough to insert the corner of a credit card (A).
3. Carefully run the credit card around the edge of the iPod, moving up toward the top left corner first.
4. Push the back plate away slightly to clear the external Hold switch from the internal hold toggle switch. Failing to do this could cause the toggle switch to break.
5. With the headphone port pointed up and the iPod's back toward you, carefully open the iPod's back plate to the right, as though you were turning a page in this magazine (B).

Don't pull the back plate directly away from the front case; you could damage an internal audio connector.

6. To detach the hard drive, carefully lift up the EMI shield assembly (C), and detach the data connector that sits beneath the copper tape on the left side of the iPod's circuit board.
7. To remove the battery, detach the power connector in the bottom right corner of the circuit with your pliers (D), untangle the power cable, and lift out the battery.
8. To reassemble the iPod, reverse these steps using the new battery. Make sure that the external Hold switch is in the same position it was in when you disassembled the iPod (in the Hold position). If it isn't, you could snap the internal Hold toggle switch.





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several, but had to cut my fat 40GB iPod out of the last one when I needed to test a third-party dock.

STM is well-known for its stylish and protective Mac laptop cases and rucksacks. Its take on the iPod case is novel and a most welcome option for the growing army of iPod users.

The Cocoon consists of two pieces. A clear plastic skin protects the iPod's screen and plastics. Holes allow you to access all the buttons and ports.

STM loves Velcro – opening one of its bags can disturb the passengers on the double-decker bus behind the one you're travelling on – and the Cocoon uses it to securely stick the skinned iPod to the ultra-protectivegun-metal grey hard outer shell, which completely encloses the iPod – keeping it clean and dry. It's bulkier than most cases, but still fits in a jacket pocket.

Inside, there's a pocket for your ear buds, and a lanyard for wearing it around your neck. A belt clip outside completes the ensemble.

My only complaint with the Coccon is that you still have to remove the iPod – with resultant Velcro ripping cacophony – to browse your tracks and playlists. If the Coccon was more flexible in where the iPod could be positioned, changing tracks would be much easier in transit.

That said, I recommend STM's Cocoon. It's almost as cool as the iPod itself.

Simon Jary

Tips to keep the battery humming

There are many ways in which you can keep your iPod's battery from running down quickly – and preserve its long life:

Upgrade the firmware Apple has released firmware patches that address earlier battery issues.

Hold tight When you aren't using your iPod, turn the hold switch on – then it won't wake up accidentally and drain in your pocket.

Feeling hot, hot hot If you can, keep your iPod at room temperature – around 20°C. If it gets too cold, you may see an erroneous low-battery signal – wait for the iPod to warm up, and it will work again.

Do it with the lights off If you don't need the backlight, don't use it. It consumes a lot of power.

Kill the EQ If you aren't bothered about custom equalizer presets, turn them off.

Don't skip Skipping songs makes the hard-drive work – and uses power. Resist the temptation.

Squish it If possible, keep songs to under 9MB – and use the highest compression you can bear.

Click OK, and name the playlist. Highlight the iPod in iTunes' Source list, and click on the iPod Preferences button that appears at the bottom of the iTunes window. In the resulting iPod window, enable the Automatically Update Selected Playlists Only option and select the smart playlist you created (deselect any other playlists). Click OK, and your mini will be updated with the songs in your smarter smart playlist.

The subgenre Playlist Some people find Apple's genres a little broad – Classical can encompass the music of Bach, Schubert, and Glass, for instance, or Jazz may lump Chet Baker together with Sun Ra. You can use iTunes' Comment field to create subgenres.

Select all the cuts on an album and press ⌘-I to produce the Multiple Song Information window. In the Comment field, enter the appropriate subgenre for that music – Baroque, Bebop, Italian Opera, or Cool Jazz, for example. Repeat for each album in your library.

Now create a smart playlist that uses the Comment field to distinguish music – such as one that reads: Comment Contains Romantic. For more-specific playlists, add other terms to an album or song's Comment field. You might, for example, enter such terms as piano, concerto, and classical to place all the piano concertos by Haydn, Mozart, and Beethoven into a single playlist.

The moon-in-June playlist Visit one of the many lyrics sites on the Web – **www.lyrictracker.com** and **www.top40db.com**, to name a couple of them – and locate the lyrics to your favourite songs. Copy and paste those lyrics into the Comments fields of the songs in your iTunes library. Create smart playlists based on the lyrical contents of your songs.

For example, a good ol' boy's country playlist might contain songs that include the words dog, truck, whiskey, prison, and pool hall.

Finale

These tips won't prevent you from packing your iPod with the kind of music bound to scare off potential dates at your next iParty. But they will help you manage your iTunes library, extend the life or your iPod, and listen to music the way you choose to. How much more harmonious could life be? **MW**

Dealing in volume

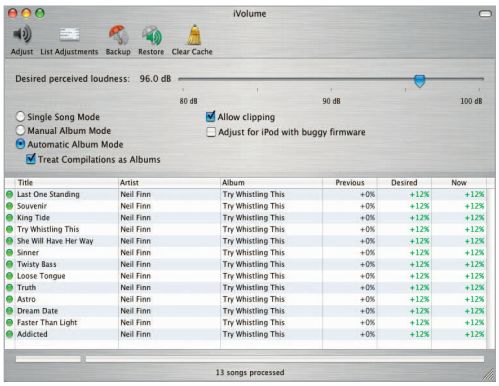
iTunes' Sound Check feature was designed to create consistent sound levels among all the songs in your iTunes library and on your iPod so that, in theory, a Bach violin concerto would be no louder or quieter than AC/DC's Back in Black. Regrettably, Sound Check's results are often fickle.

To achieve more-consistent results, try Manfred Lippert's iVolume (**www.mani.de/en/software/macosx/ivolume/index.html**). This $7 program analyzes each song and adjusts its perceived loudness to between 80dB and 100dB, via the Volume Adjustment slider (found on the Options tab of each song's Information window).

When synchronizing your iPod, these volume adjustments are copied to the device (see "Better than Sound Check").

iPod owners in Europe face a different volume issue. Because of laws that were designed to protect the hearing of French consumers, portable music players sold in the European Union are forbidden from blasting over 100dB into people's ears. Therefore, iPods sold in Europe can play no louder than this limit. (iPods sold elsewhere play as loud as 104 dB – two and a half times louder than 100 dB.)

iPod owners in Europe who'd like to accelerate the onset of tinnitus can do so with Hans-Peter Dusel's free utility iPodVolumeBooster (**www.bnv-gz.de/~hdusel/tools/iPodVolumeBooster**). Rather than adjusting the volume settings of the iPod's individual songs, iPodVolumeBooster makes changes to the iPod's hidden database, to allow higher volumes.



Better than Sound Check

iVolume keeps your volume consistent.

Macworld.co.uk Search Macworld's Reviews database online (**www.macworld.co.uk**), updated throughout the month

Check-out the full-version, shareware and demo versions of the software mentioned here in the Inside Macworld folder on this issue's CD.

Mac emergency toolkit

When your Mac's in trouble you need the right tools for the job. By Ted Landau

Your Mac develops a serious problem that can't be ignored: Perhaps it won't print your documents. Or applications keep crashing. Or the Mac itself crashes on startup. That's when you need to pull out your emergency tool kit. We've assembled a collection of essential utilities you should have on hand.

Disk repair

You'll probably reach for a disk-repair utility most of the time. Fortunately, you already own one if you have Mac OS X: it's Apple's Disk Utility. (For more freebies, see below) Go to Applications: Utilities, launch Disk Utility, select the problem volume, and click on the First Aid tab.

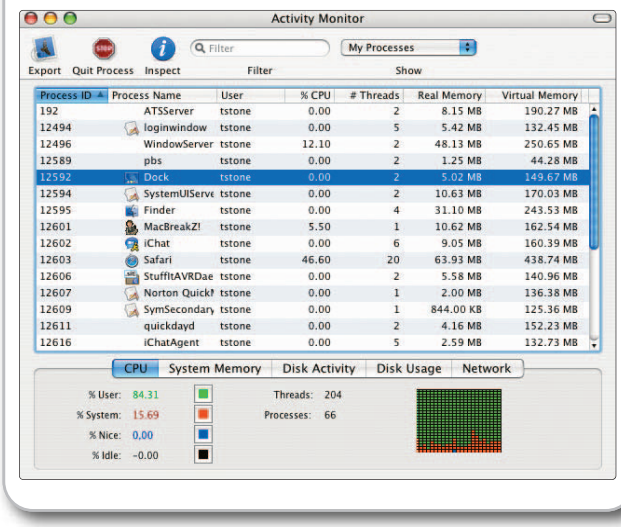
Fix it for free

Mac OS X 10.3 Panther includes applications that can solve software problems. Disk Utility is one (see main story); here are three others.

Activity Monitor Activity Monitor (shown below) can force-quit processes that are not listed in the standard Force Quit window, such as the Dock.

Font Book Duplicate fonts can cause applications to crash. Font Book checks for these duplicates and disables all but the version you want to keep.

Terminal Unix-savvy readers know that many of the utilities mentioned in this article (especially the shareware) are graphical front ends to Unix commands that do the actual work. If you're willing to master the relevant Unix basics, you can launch Terminal and run the commands directly. Terminal also provides access to additional commands for which there are no graphical front ends.


Activity Monitor
Export
Quit Process
Inspect
Filter
My Processes
Show
Process ID
Process Name
User
% CPU
# Threads
Real Memory
Virtual Memory
192 ATSServer tstone 0.00 2 8.15 MB 190.27 MB
12494 loginwindow tstone 0.00 5 5.42 MB 132.45 MB
12496 WindowServer tstone 12.10 2 48.13 MB 250.65 MB
12589 pbs tstone 0.00 2 1.25 MB 44.28 MB
12592 Dock tstone 0.00 2 5.02 MB 149.67 MB
12594 SystemUIServe tstone 0.00 2 10.63 MB 170.03 MB
12595 Finder tstone 0.00 4 31.10 MB 243.53 MB
12601 MacBreakZ! tstone 5.50 1 10.62 MB 162.54 MB
12602 iChat tstone 0.00 6 9.05 MB 160.39 MB
12603 Safari tstone 46.60 20 63.93 MB 438.74 MB
12606 StuffItAVRDae tstone 0.00 2 5.58 MB 140.96 MB
12607 Norton QuickF tstone 0.00 1 2.00 MB 136.38 MB
12609 SymSecondary tstone 0.00 1 844.00 KB 125.36 MB
12611 quickdayd tstone 0.00 2 4.16 MB 152.23 MB
12616 iChatAgent tstone 0.00 5 2.59 MB 132.73 MB
CPU
System Memory
Disk Activity
Disk Usage
Network
% User: 84.31
% System: 15.69
% Nice: 0.00
% Idle: ~0.00
Threads: 204
Processes: 66

Plastered X © h2design.de

For almost any imaginable problem that you can't easily fix, click on Repair Disk Permissions. This is worth trying even if you think that permissions have nothing to do with the trouble.

If permissions problems are preventing you from launching Classic, select the Fix OS 9 Permissions command in Disk Utility's File menu. When permissions fixes don't do the trick, click on Repair Disk to repair problems involving the hidden directory area of a drive – an area critical for tracking the name and the location of all the items on the drive.

But some situations are beyond the scope of Disk Utility. That's when you should look elsewhere. Alsoft's £76 **DiskWarrior 3** (★★★★; www.alsoft.com; Softline, 01293 827 900) succeeds more often than any other repair utility. If you have extra cash, add Symantec's £79 **Norton Utilities 8.0** (★★★; www.symantec.com; CU, 020 8358 5858) or Micromat's £111 **TechTool Pro 4.0.1** (★★★; www.micromat.com; Softline). There are always a few problems that neither Disk Utility nor DiskWarrior can fix, but that one of these utilities can. Also, they both have troubleshooting features beyond disk repair, whereas DiskWarrior is more focused.

However, Symantec is to discontinue the Mac versions of its Norton Utilities and SystemWorks packages – instead focusing its efforts on developing Internet security software. The latest major upgrade to the package occurred almost a year ago when Symantec released Norton Utilities 8.0, which finally provided a complete transition to Mac OS X compatibility. For more details, see News.

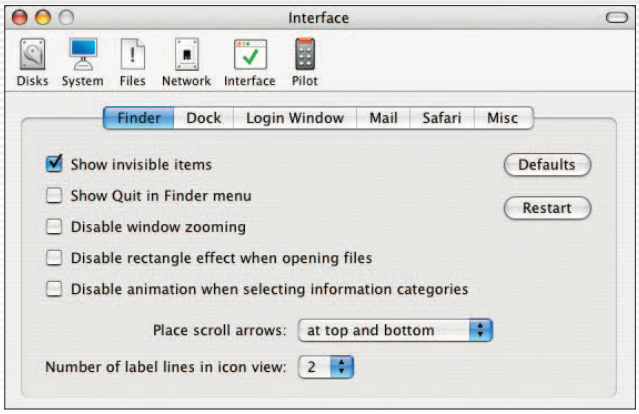
Backups

No matter how damaged a disk becomes, you won't have to worry about losing data if you've backed it up. For simple backups of critical documents (such as iPhoto or iTunes libraries), the Finder is a sufficient copy tool. But to back up your entire drive (especially if you want a bootable backup to completely restore your drive), you need a dedicated backup utility. Although you can use the new Restore tab in the Panther version of Disk Utility, Bombich Software's free **Carbon Copy Cloner 2.3** (★★★★; www.bombich.com) makes creating bootable backups a breeze. Dantz's £94 **Retrospect 6.0** (www.dantz.com; CU) and Prosoft Engineering's £35 **Data Backup X** (★★★★; www.prosoftengineering.com; Systems Support, 01799 531 777) give you additional options. For example, you can backup just the files that have changed since your last backup, dramatically speeding up the process. Though it's more difficult to master and more prone to problems than Data Backup, Retrospect excels at tasks such as backing up over a network.

Data recovery

If you need a recovery utility, you probably also need a tranquilizer. You've failed in your attempts to resurrect a damaged disk with a repair utility. There are critical files that you never backed up. A recovery utility is your last hope – it won't fix the disk, but it may be able to recover your files. The best tool for this job is Prosoft's £65 **Data Rescue X** (★★★★). If this software can't recover your files, they probably aren't coming back.

If you've already bought Norton Utilities or TechTool Pro, their recovery functions can be an economical alternative to Data Rescue.



Save yourself the bother

Why waste hours scouring the Web in search of the solution to a problem? With utilities such as Cocktail, dozens of helpful fixes are just a click away.

Don't erase that!

Have you ever had a panic attack after selecting Empty Trash because you just unintentionally deleted your only copy of an important document? There's a utility with a permanent cure for such attacks: Prosoft's £41 **Data Recycler X** (★★★★). With this program installed on your drive, you can instantly recover almost any deleted file. It can even recover files you've deleted using Terminal's rm command. No other utility offers this protection. (You can buy Prosoft's Data Safety Suite that includes Rescue X, Backup X and Recycler X for £79.)

Once again, Norton Utilities provides a viable alternative, this time via its UnErase option. It doesn't have the success rate of Recycler, but it's your best chance of quickly recovering a file that was deleted before you installed any protection software.

Virus protection

Neither I nor anyone I know has been the victim of a virus that directly attacks OS X – although recent reports suggest a benign Trojan Horse (a normally malicious virus-like program that masquerades as something else) has arrived on the scene. Still, a Mac antivirus utility can prevent you from becoming a carrier for viruses that attack Windows machines via email. You have two sound choices: Symantec's £49 **Norton AntiVirus 9.0** (★★★; www.symantec.com) and Network Associates' **Virex 7.2.1** (★★★; free with Apple's £69 .Mac service or available in five-user pack for £110 from www.networkassociates.com).

Multipurpose utilities

Be sure to add a couple of multipurpose utilities to your toolkit. They combine otherwise unrelated functions into single mega-utilities. The best of the lot provide the greatest number of features along with an interface that simplifies finding and using the feature you want. Kristofer Szymanski's $12 **Cocktail 3.2** (★★★★; www.macosxcocktail.com) is my favourite. It can automatically delete potentially corrupt cache files (which can cause applications to crash), force-empty the Trash (when selecting Empty Trash fails to work), and make invisible items appear in the Finder (helpful when you want to locate items in Unix directories). Another excellent choice is Laurent Muller's $19 **Xupport 1.3.7** (★★★★; www.computer-support.ch/Xupport). It offers many of the features Cocktail does, as well as firewall and backup capabilities. Look for Xupport 2.0; in beta at press time, it has a much-improved, redesigned interface and several new features.

If you can't fix printing problems with Panther's Printer Setup Utility, get Fixamac Software's $15 **Printer Setup Repair** (★★★★★; www.fixamac.net). It can fix incorrect permissions of printing-related files (a common source of printer errors), delete corrupted printing-related preferences and cache files, and delete and reinstall printer drivers.

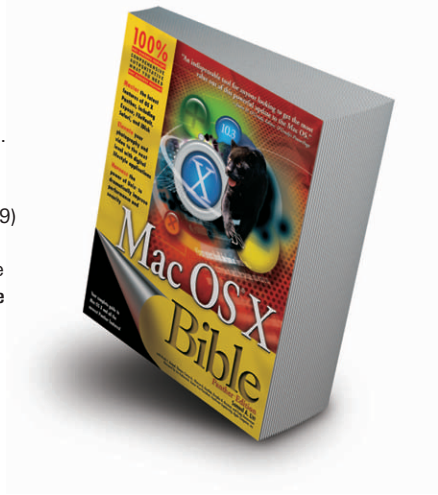
Don't get caught without them

There are easily a dozen other utilities you could add to your kit – but the ones listed here will get you out of the vast majority of jams. All that's left is to get a good pair of overalls, and you'll be ready the next time disaster strikes. **MW**

Maintaining Mac OS X

This article is extracted from the **Mac OS X Bible Panther Edition**, published by Wiley (2004; ISBN: 0-7645-4399-7).

We'll send you the whole 900-page book (worth £26.99) for free if you subscribe to Macworld. Visit our Web site at **www.macworld.co.uk/subscribe** or call us on 01858 438 867.



As with any disk-based operating system, debris accumulates and storage space becomes fragmented over time. A few basic maintenance operations, performed on a regular basis, provide improved performance and stability. The most critical of these is to backup your data. We cannot stress enough how important a regular backup routine can be – the first time you accidentally delete or overwrite some file(s) you need, you'll be very glad to have a backup from which to restore them. Data recovery is one of the most expensive propositions a company or individual can face. In this case, an ounce of prevention is definitely worth a pound of cure.

Keeping software up-to-date

Unfortunately, no software of any consequential size and complexity is completely free of bugs (bugs being improperly programmed instructions). Some bugs may be features that do not function as planned, to more serious errors that cause crashes or data corruption. Many bugs are so obscure, requiring an unusual confluence of events that you are likely never to encounter them. But a few may appear to take a nip at you. As one of the largest bodies of code on your Mac, Mac OS X also is not completely bug-free.

Customarily, after software publishers become aware of a problem with their product, they take action to correct the anomaly by either one of the following:

- Document a work-around while they work on a new version that fixes the problem.
- Provide an updater that updates the application to a new version with the problem fixed.

Registering your software (either by sending in the postcard that came with it or via the Internet, as you did when you performed your Mac OS X Setup) and checking the publisher's Web site regularly are two good ways to keep informed of workarounds and updaters. Many software publishers, such as Aladdin Systems, include in their applications the ability to automatically check for updates just as Apple does with Mac OS X and QuickTime.

Mac OS X, like Mac OS 9 before it, provides a live Software Update capability. The Software Update pane of System Preferences is easily accessible from the System Preference application. Keeping your operating system software up-to-date with the latest enhancements and bug fixes from Apple should be part of your maintenance regimen.

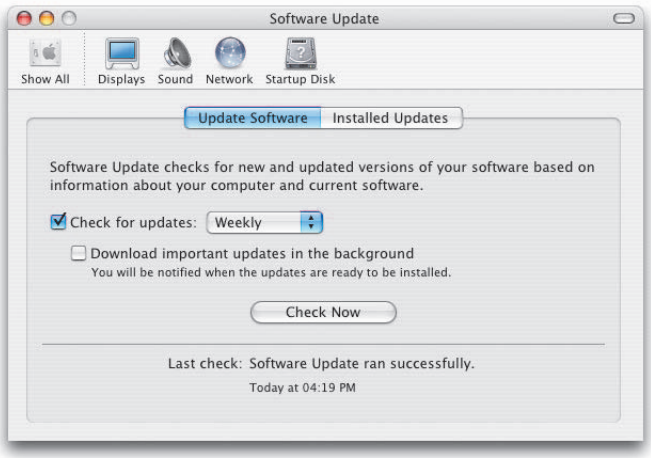
To install software updates:

1 Launch the System Preferences application. It can be accessed from the dock, or from the Apple Menu by choosing System Preferences.

2 In the System section of the System Preferences application, click on the Software update icon.

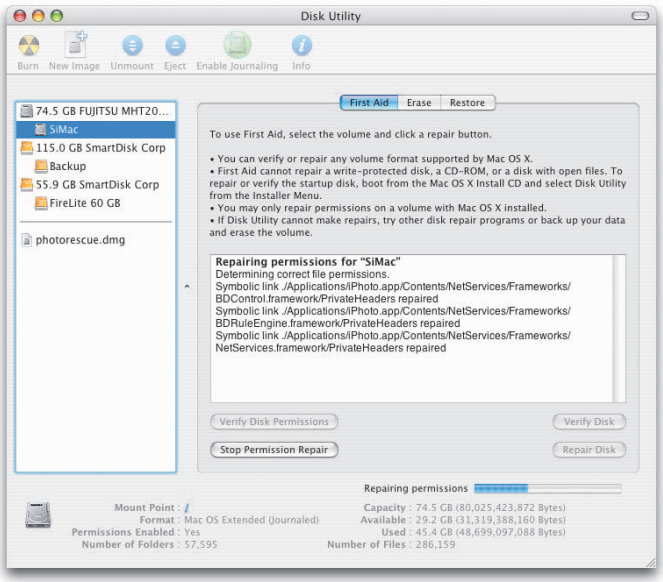
3 Click on the Check Now button (shown in overleaf). Your computer must be connected to the Internet, and you will see a progress bar in the bottom of the window. If there are any updates to be installed, the Software Update application will launch.

continues page 94


Software Update
Show All
Displays
Sound
Network
Startup Disk
Update Software
Installed Updates
Software Update checks for new and updated versions of your software based on information about your computer and current software.
Check for updates:
Weekly
Download important updates in the background
You will be notified when the updates are ready to be installed.
Check Now
Last check: Software Update ran successfully.
Today at 04:19 PM

4 Click on an update in the list of available updates to see more information about the update in the lower pane of the window. Make sure that the updates you want to install are checked and click the install button in the lower-right corner of the window. Some updates require the computer to restart, and they will have an icon next to them that indicates this.

After you have chosen to install the selected updates, the Software Update application connects to Apple's servers and automatically downloads and installs the updates you have chosen. Some updates can be rather large, if you are on a dial-up account, you should pay attention to the size of the update so you can plan accordingly.


Disk Utility
Burn
New Image
Unmount
Eject
Enable Journaling
Info
74.5 GB FUJITSU MHT20...
SiMac
115.0 GB SmartDisk Corp
Backup
55.9 GB SmartDisk Corp
FireLite 60 GB
photorescue.dmg
First Aid
Erase
Restore
To use First Aid, select the volume and click a repair button.
• You can verify or repair any volume format supported by Mac OS X.
• First Aid cannot repair a write-protected disk, a CD-ROM, or a disk with open files. To repair or verify the startup disk, boot from the Mac OS X Install CD and select Disk Utility from the Installer Menu.
• You may only repair permissions on a volume with Mac OS X installed.
• If Disk Utility cannot make repairs, try other disk repair programs or back up your data and erase the volume.
Repairing permissions for "SiMac"
Determining correct file permissions.
Symbolic link ./Applications/iPhoto.app/Contents/NetServices/Frameworks/BDControl.framework/PrivateHeaders repaired
Symbolic link ./Applications/iPhoto.app/Contents/NetServices/Frameworks/BDRuleEngine.framework/PrivateHeaders repaired
Symbolic link ./Applications/iPhoto.app/Contents/NetServices/Frameworks/NetServices.framework/PrivateHeaders repaired
Verify Disk Permissions
Verify Disk
Stop Permission Repair
Repair Disk
Repairing permissions
Mount Point : /
Format : Mac OS Extended (Journaled)
Permissions Enabled : Yes
Number of Folders : 57,595
Capacity : 74.5 GB (80,025,423,872 Bytes)
Available : 29.2 GB (31,319,388,160 Bytes)
Used : 45.4 GB (48,699,097,088 Bytes)
Number of Files : 286,159

Repairing system permissions

Mac OS X brought with it the concept of permissions. To a certain extent, this security model has grown from the Unix multiuser environment, and is designed to keep users out of places they shouldn't have access to, such as each other's home folders. The system, and all of the documents, applications, and folders contained on your hard drive each have their own permissions which tell the operating system who and what is allowed access to each item.

These permissions can get messed up over time, and can cause applications to cease functioning in the way they are supposed to. Fortunately, Apple has provided a means of repairing the permissions on your computer to their proper settings.

The included Disk Utility application provides an automated feature to repair the permissions of the system and the installed applications. If for some reason the permissions of your Disk Utility application are incorrect, it may in some very obscure instances be unable to properly function.

In this case, you can boot your computer from a Mac OS X installation CD and repair the permissions using the Disk Utility command under the File menu. Alternatively, boot from an external or separate drive that has Mac OS X installed, and repair permissions from the Disk Utility on that volume. Permissions can only be repaired on drives that have Mac OS X installed; drives that contain only data or are Mac OS 9 boot volumes are not supported.

If you chose not to install an update because it doesn't pertain to your system configuration (such as an AirPort update, but your computer doesn't have or support AirPort), you can hide updates so you don't have to see them each time you run the update check. Select an item from the list (do not check the checkbox, merely click on the name of the update), and from the Update menu, select Make inactive. You can show the inactive updates at a later date by going to the Update menu and selecting Show Inactive.

You can also check your iDisk for new and updated applications and utilities from Apple. There, you find such goodies as iTunes, iMovie, and the AppleWorks updaters in addition to new and updated printer drivers for Mac OS X. Here are some excellent sources to check:

- Apple's Mac OS X Web site (**www.apple.com/macosx/**)
- Apple's Software Updates library (**www.apple.com/swupdates/**)
- VersionTracker (**www.versiontracker.com/macosx/**)

Despite testing by Apple and various software publishers, some older software products are incompatible with the Classic environment. Assuming that you have already verified that they work with Mac OS 9, you should keep them separate and run them only when you start up with Mac OS 9 until a Mac OS X-compatible version becomes available.

Scheduling maintenance

Taken together, all of the maintenance tasks discussed in the preceding sections — backing up, virus checking, securing your system, repairing permissions, defragmentation of your drive, and periodic cleaning up – can help ensure that your Mac experience is relatively error and hassle-free.

- **Daily** You should turn on and shut down your Mac only once per day (at the beginning and end of your work day or Mac session), if you elect to do so at all. You can put your Mac to sleep, spin down the hard disk, and make other energy-saving settings in the Energy Saver pane of System Preferences. The most wear and tear on your computer's components occurs during startup and shutdown due to the power draw

I forgot my password

If a user can't remember his or her password on your computer, you can log in as an administrator and reset the user's password. If there are no other accounts, or no one can remember the password of an administrator account on your Mac, you can reset passwords of ordinary user and administrator accounts by using the Mac OS X installation CD.

To reset a password when no administrator account passwords are at hand, follow these steps:

1. Restart the computer with the Mac OS X installation CD. Insert the CD and choose Apple ? Restart.
2. When you hear the computer's startup chime, hold down the C key until the computer begins starting up from the CD. You can release the C key when you hear the sounds of activity coming from the CD. After a minute or two, the Installer application opens.
3. In the Installer, choose Installer ? Reset Password. The Password Reset application opens.
4. At the top of the Password Reset window, select the Mac OS X disk that has the user account whose password needs resetting.
5. For each user account whose password needs resetting:
   - Click the pop-up menu and choose the user account whose password you want to reset.
   - Type a new password in both text boxes and click Save. If the two entries are not identical, re-enter them.
   - In the dialog that appears, click OK. The dialog informs you that the password you entered was saved.
   - When you finish resetting passwords, choose Password Reset ? Quit Password Reset. You return to the Installer.
   - In the Installer, choose Installer ? Quit Installer.
   - In the dialog that appears, click Restart.

   The computer restarts.

that those processes require. It is good to leave your computer on overnight once in a while as Mac OS X runs maintenance scripts late at night to tidy up after itself.

You should also check your disk space levels — open the Macintosh HD icon and look at the status section of the window at the top (you may have to choose View → Show Status Bar to make it visible) to make sure that you have disk space available. In a business setting, you may also want to back up on a daily basis or every other day.

■ **Weekly** Scan your computer with virus software if it's not already designed to run in the background. If your machine is for personal use, you may want to back up on a weekly basis, according to the media rotation schedule you have devised.

■ **Monthly** Update your virus definitions if your virus software doesn't do this for you automatically. Check for updates to Mac OS X at least once a month. If the Software Update pane of System Preferences isn't set to update automatically, go to this pane at least once a month and click the Check Now button to initiate an update manually. In addition, every few months you should defragment your hard disk. Repair the permissions of your drive monthly, especially after an update to the Mac OS system has been applied.

■ **Every three to six months** Run a session from one of the Disk Utility packages mentioned earlier in this Chapter. Clean house — remove applications, preference files, and other software that you no longer need. If you are a light computer user, defragment your hard disk.

Monitoring system performance

Some Mac problems manifest themselves in slow performance rather than in crashes or system errors. If your Mac has been performing more slowly than usual, the following sections discuss a few possible causes and solutions.

Memory problems If you open memory-consumptive applications or documents, Mac OS X employs virtual memory (treating part of your hard disk as memory, also called the swap space) to continue to work. If your software has to continually access the disk to retrieve data because of this, you experience a significant performance degradation.

Other than dealing with smaller documents or using applications with lesser appetites, the solution here is to purchase and install more RAM. Although Mac OS X recommends at least 128MB of RAM, a realistic minimum is 256-384MB and even more will generally speed your computer up drastically, especially if you work with large files. Even 512MB of extra RAM isn't too expensive these days – try **www.crucial.com/uk**.

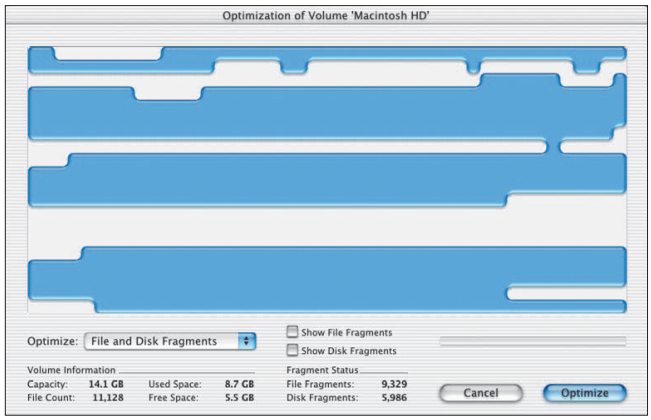
Insufficient drive space Running low on hard-drive space can affect performance in various ways. You should archive and delete files that you don't need everyday access to, and remove any applications you no longer need. If you don't regularly leave your computer on overnight, use a utility such as Cocktail to manually run the Mac OS X maintenance scripts that delete over-long log files, and clean out cache space that piles up over time. An application such as the Omni Group's OmniDiskSweeper (**www.omnigroup.com**) can help you figure out which directories are taking up the most space, saving you time in the cleanup process.

If you have purged as much as you can stand but are still low on space, you may need to add additional storage space to your computer. Apple's tower models, such as the Power Mac line, support between two and four internal hard drives in capacities up to 250GB each (at the time of this writing, though hard drive manufacturers are constantly creating more voluminous drives).

Check your computer's manual or Apple's support page to determine what type and size drives your computer supports. For computers that do not support multiple internal drives you can, with varying degrees of difficulty depending on the model, replace the internal drive with a bigger model.

A third option for the faint of heart is to invest in an external drive – Firewire enclosures are becoming increasingly popular due to their extreme ease of use and portability.

You can purchase external FireWire drives in capacities ranging from 0GB (just an enclosure, you add your own drive, such as the one you just removed from your computer to make way for a bigger one) to 500GB or more using multiple disks. Hard drives come in different physical sizes, ranging from the very portable 2.5-inch laptop-sized drives to the standard 3.5-inch desktop-sized drives. The 2.5-inch drives make for very portable data storage when coupled with a FireWire enclosure, and can be found at many retailers online and off. **MW**



Disk fragmentation

When the files on a disk become fragmented, disk performance suffers considerably. In addition, files themselves (including applications) can become fragmented on a disk. A single file may be split into several pieces spread around in different locations physically on a disk. Fragmentation degrades disk performance because the drive must take extra time to move from one piece of a file to the next.

A fragmented file is analogous to a single track on an audio CD being split into multiple segments, so that the beginning of the track may be at the beginning of the CD, the middle at the end, and the end of the track some place in the middle with other unrelated files interspersed between. If audio CDs were mastered in that fashion (which, fortunately, they are not), you would likely notice a delay as the CD player's laser moves to play the next segment.

In a disk with no fragmentation, each file physically resides in a single contiguous block. As a disk begins to fill up and new files are created and deleted with increasing frequency, files and the free space start to become fragmented. A heavily fragmented disk is more likely to experience a variety of problems, including corrupted directory structures and damaged files.

Without any special software, you can eliminate fragmentation by copying the entire contents of a disk to another disk, erasing the disk, and copying everything back.

An easier solution is to use a commercial disk defragmentation utility, such as the SpeedDisk component of the Norton Utilities from Symantec, Plus Optimizer from Alsoft, or Drive 10 from Micromat (see page 92). Note, however, that older disk optimization utilities are not compatible with the Unix File System (UFS) and you should check for compatibility before attempting to run a disk optimizer on a UFS volume.

Before optimizing any disk, take the time to make a full backup, because virtually every byte on the disk can be erased and moved to a different location. If an error occurs during this process you stand the chance of losing some or all of your data.

New barcode readers

Two Mac-compatible bar-code readers recently made their debut. The Peninsula Group's Phoenix II (US$179; **www.barcodereaders.com**) is a USB bar-code reader you can use with any Mac OS since OS 7.

A bar-code management program, Peninsula QuickTrack V Start, ships with the reader. Intelli Innovations' IntelliScanner OCR Pen (US$399; **www.intellisw.com**) is designed to capture text and bar codes.

It comes with Collection, a program that organizes your scanned information; ProInventory, an inventory manager; and xTagger, which generates bar-code labels. The IntelliScanner OCR Pen requires OS 9.2 or later.

Terri Stone

Light and shade

Add flair to your digital images.

By Anita Peezkweek

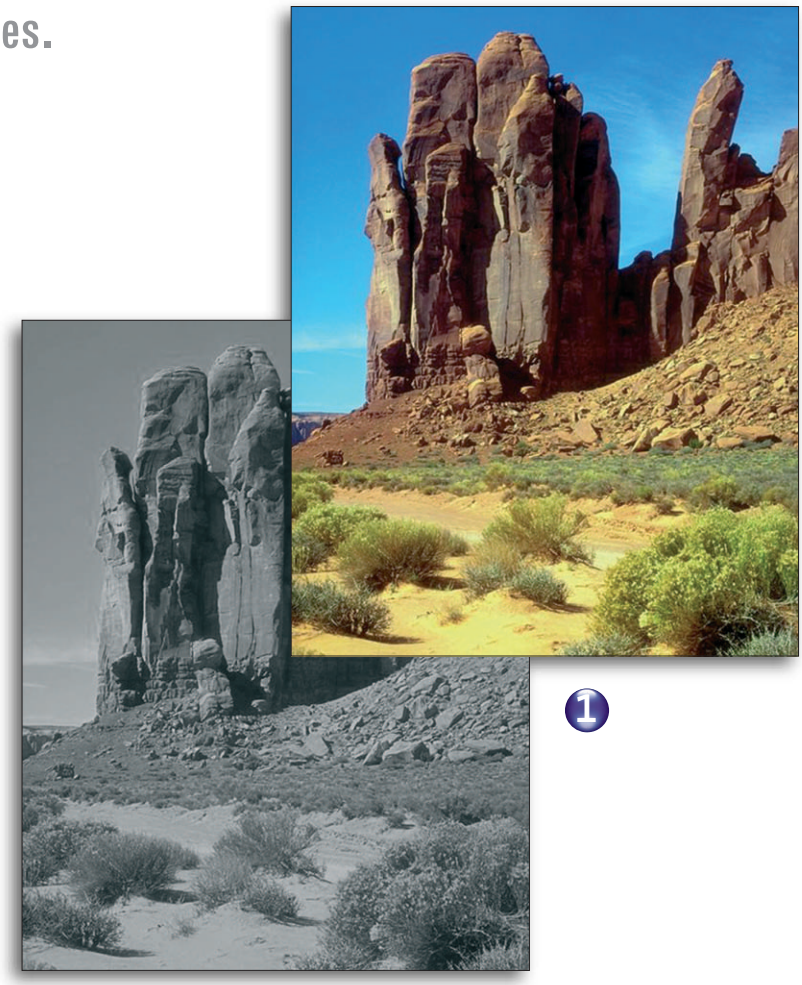
Full-tone monochrome from colour

There is no doubt at all that black-&-white photography is still – and will always remain – an important branch of the art. Monochrome images can have a very powerful impact and are important when creating character studies. Though they are rarely encountered by the colour photographer, there are a wide range of black-&-white film emulsions available, and many have characteristics that make them particularly suitable for a certain type of subject.

In the digital environment, we can emulate all these and more, but we have to take care that, in producing a monochrome image from colour, we get the best results. Straight desaturation of a colour image rarely delivers a mono image as potent as the original. And don't select the monochrome mode on a digital camera. It's much better to shoot in colour and convert the image later. In this way we can, should the need arise, still use the colour image, perhaps interpreting the image as a toned print or using some other effect.

Monochrome by channel separation

In Photoshop, a colour image is composed of three or four channels (three in the case of RGB mode images, four for a CMYK image). Each channel represents the component of that image viewed in the corresponding colour light. Most of the time, there's no need to worry about the channels – but at times, they do prove useful. In fact, for our current purposes, we can think of each channel as a shot taken of a scene using the corresponding colour filter on monochrome film. We can select just one and use this as the basis of our image.



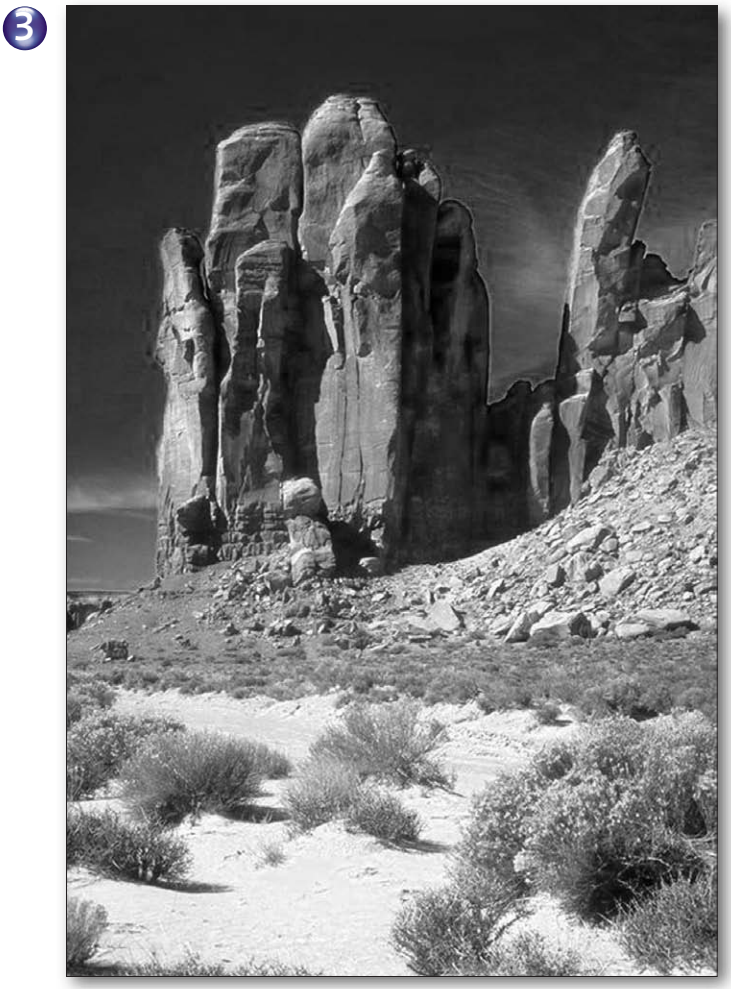
1 This RGB mesa-scape would, if converted directly to a greyscale (Image→Mode→Grayscale), look rather uninspiring; not the type of image Ansel Adams would approve of!

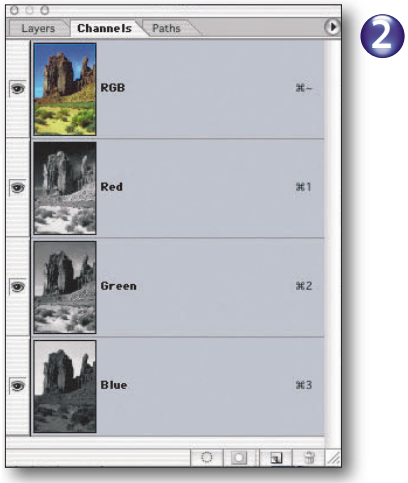
Darkroom secrets

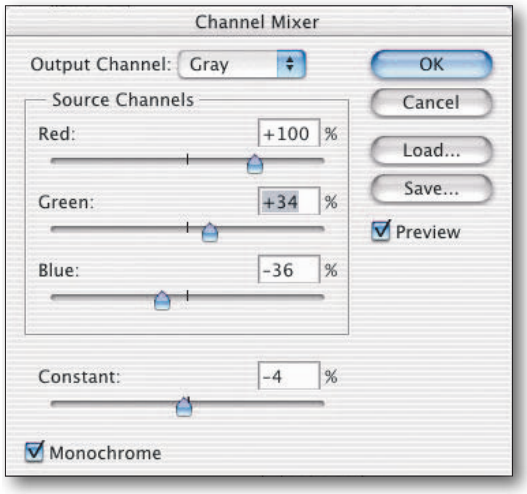
The Lab advantage

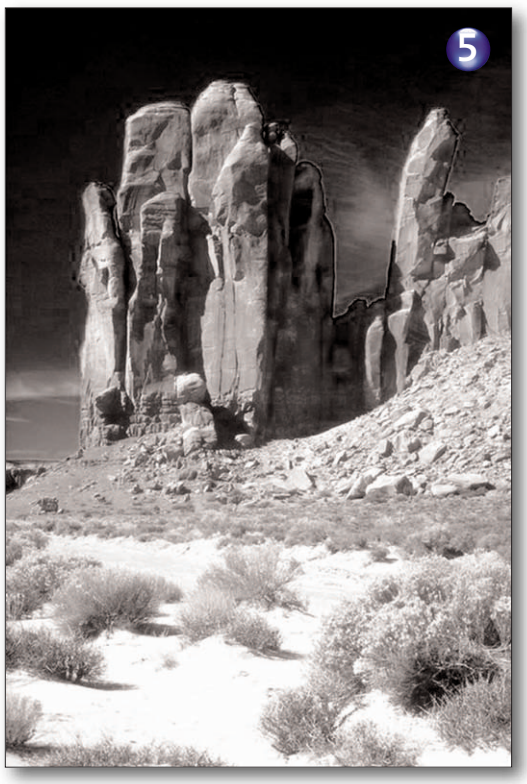
One of the channels in the Lab colour mode (found in many image-editing applications) is L, which contains lightness information. If your image is converted to greyscale, you can select and manipulate the L channel, which now contains all the significant image data. By using the Levels or Curves command, you have precise control over the qualities of the image. Your image will probably be sharper than when an RGB or CMYK channel has been isolated, because it contains all the image information, rather than just that of a selected colour. Usefully, the resulting file is also only one-third of the size of the colour original.

continues page 98









2 If we display the Channels palette for the original colour image, we see, from the thumbnails, that each channel presents the image slightly differently. We can turn off the visibility for each channel just by clicking on the eye to the left.

3 Here's the red channel. This gives the most saturated and imposing skies, but is the result too dramatic? For our purposes, yes.

4 Luckily, there is another way that works better with some images. Using the Channel Mixer (Image→Adjust→Channel Mixer) lets us overcome some of the harshness of using separate channels, yet still gives impressive results.

5 We can use the Channel Mixer to take most of the red channel, reduce the blue partially, and increased the green. The result has dark skies, but with more detail and better contrast – less of the image is lost in highlight or shadow. Check the Monochrome box then click OK to finish.

Darkroom secrets

Printing monochrome images

For the best results when printing monochrome images, specialized ink sets can be used in most conventional inkjet printers.

For the ultimate quality, monochrome prints, particularly those destined for fine-art applications, are printed using the duotone process. This enables a greater range of tones to be printed, extending the normal range substantially.

Macworld.co.uk Search Macworld's Reviews database online (www.macworld.co.uk), updated throughout the month

Colouring a black-&-white image

Hand-colouring and hand-tinting black-&-white photos has been popular since the earliest days of photography. In the early days, the process was born out of necessity – there simply weren't any colour emulsions that could deliver colour images reliably and directly.

Despite the ubiquity of colour film in more recent times, hand-coloured prints are still prized for their unique subtlety.

Recreating the same effect digitally requires the digital equivalent of hand-tinting dyes. Dyes – rather than paints – are transparent and let the original image show through. When we use the painting tools in any image-editing application, we are using an opaque medium. True, we can alter the opacity by using the opacity or transparency sliders, but we are still working with paint that is – for the want of a better description – cloudy.

To achieve the classic hand-tinted look, we need to paint onto a layer and use the Color Blend mode. This takes the colour – rather than the paint texture – painted in the layer and combines it with the original image. This is the technique used here to colour this monochrome portrait of a Royal Canadian airman.

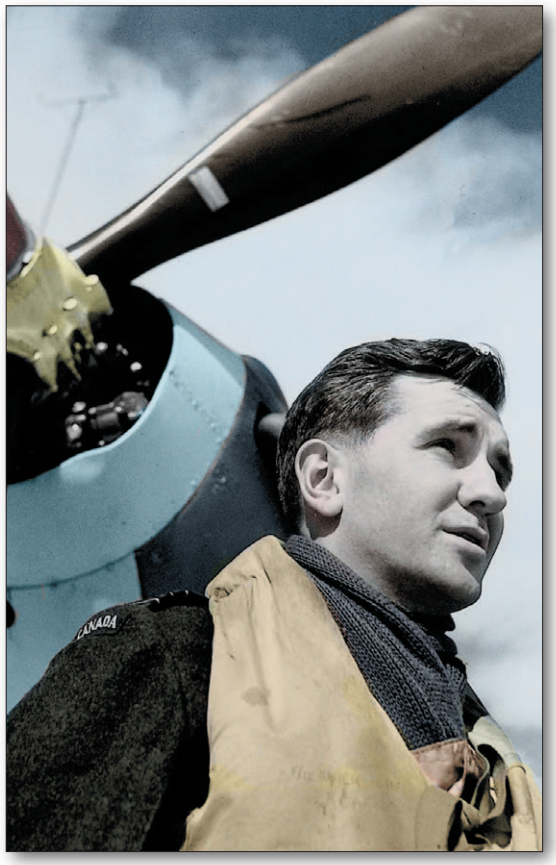
Hand-tinting

1 Create a duplicate layer from the background image. It will be this layer to which we apply the colour. Colours do not have to be authentic; some license has been used here – as those familiar with military regalia might notice!

2 Begin with the propeller, painting over it with an appropriate shade of brown. Try to be precise but don't worry if you stray slightly. Our eyes are very forgiving of any slivers of colour that might be in the wrong place.

continues page 100

5



6

This feature is taken from ***Secrets of the Digital Darkroom*** *(ILEX, ISBN 1-904705-07-3) by Peter Cope.*

Secrets of the Digital Darkroom shows you how, cutting through the jargon to deliver a workbook-based approach to creating great images. Practical projects take you step-by-step from the basics of contrast and colour correction, through retouching and repair, to highly creative montage and image manipulation.

Peter Cope has a background in still and video digital imaging. As early as the 1980s he was working with Image Photon Counting Systems, the precursors to today's digital-imaging devices.

He is author of ***The Photoshop User's A–Z*** *and* ***The Digital Photographer's A–Z****. Its 200 pages include 450 full-colour images. It is available for £19.95, or £15.95 from* ***www.ilex-press.com****.*

3 The result when viewing the painting layer and background with the blend mode set to Normal is rather abrupt and unsatisfactory. That changes, however, the moment we switch to the Color Blend mode. We now get the sought after tint with the underlying detail showing through.

4 Add a blue wash all over the sky, using a greater opacity for the clear sky and a paler one for the clouds. It might not be photographically accurate, but it helps to make the sky recede into the background.

5 Colouring the other parts of the scene, where the original colour is not obvious or unknown, just improvise or choose colours that work in the composition. Flesh tones are notoriously difficult to formulate. Here, Photoshop colour swatch Pale Cool Brown has been used at 40% opacity and then painted over with Pure Red at 4%. You can always mix colours on the image.

6 If your results are too bold, use the paint layer's Opacity slider to reduce the amount of tint. Here is the same image at 40% opacity. It is clear that the painting process does not have to be precise or even to achieve an acceptable result. Close examination of hand-tinted photos from a century ago would reveal a similar lack of accuracy, and that's actually part of the charm! **MW**

Tips for tinting

You don't need to work with an original black-&-white image. You can use a colour image and convert it to greyscale. You can even use an original colour image and add further colour tints to this. In this example, the gilt mask on this sculpture was selected and the rest of the image desaturated to give a black-&-white image. Appropriate tints have then been added to give emphasis to the subject and de-emphasize the background.

Selective tinting – the tinting of only one part of the image – is a good way of giving more prominence to the subject.

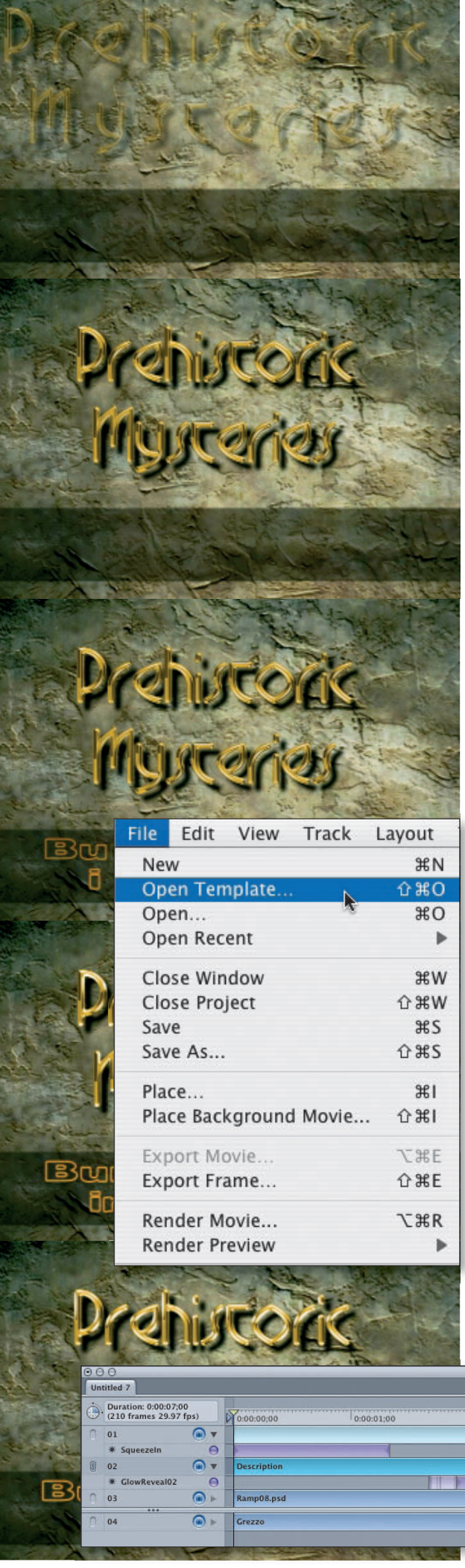
Macworld.co.uk Search Macworld's Reviews database online (www.macworld.co.uk), updated throughout the month

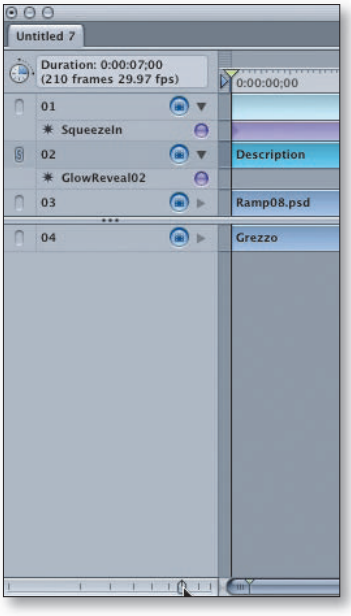
Templates and

Using LiveType in Final Cut Pro

By Diannah Morgan

You can spend huge amounts of time creating custom titles and effects, but with LiveType you don't really need to. If you want to pop in a title or a lower 3rd ID on the fly and you don't have much time to create your own, LiveType comes with a comprehensive set of templates, categorized into Info, Lower Third, Promo and Title. But there's more to it than that: you can modify each of these templates after you load them onto your Timeline. Also, if you are just learning about LiveType, the templates provide a wonderful place to examine completed projects, and also to get your head around some of the more advanced concepts.

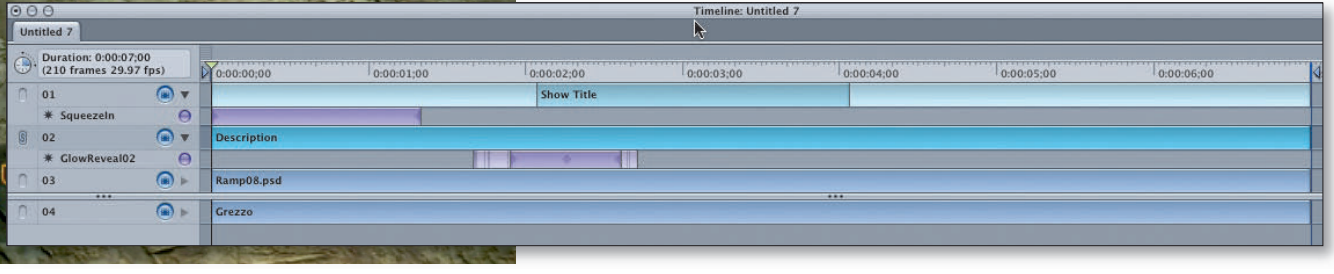




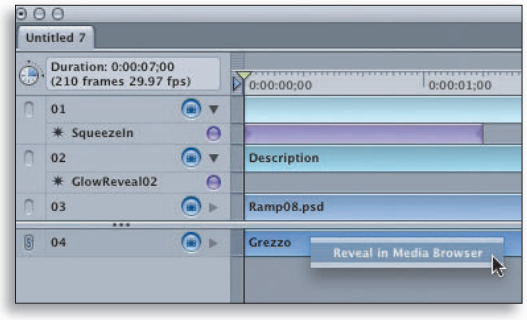
1 For this example, I'm going to use a template title for the opening to a documentary. To load a template, just go to the File menu and choose Open Template or use the keyboard shortcut ⌘-Shift-O. This will open the Template Browser. Here, templates are organized into categories to make finding the right one a breeze. At the top of the browser, you will get to preview your selection as well. While here, you might want to take a few moments to see what else there is, as it's a great source of ideas. For this project, however, I'm going to choose from the Title category and select the template called Southwest. Click OK to load any template into the Timeline.

2 When it first loads, the content on the Timeline may go off the screen so you can't see the entire project. If you do have this problem, you can make it visible just by using the Zoom tool at the bottom right to bring it into focus.

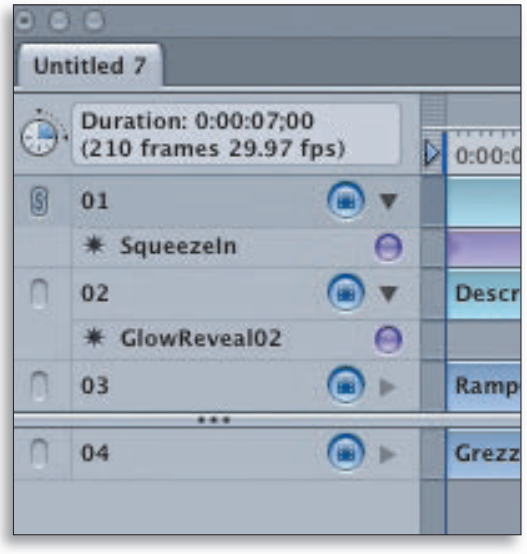
3 Now you can see the Out Mark and the extent of all the tracks. You should have four tracks, the fourth being a background track loaded with the Grezzo texture.



effects

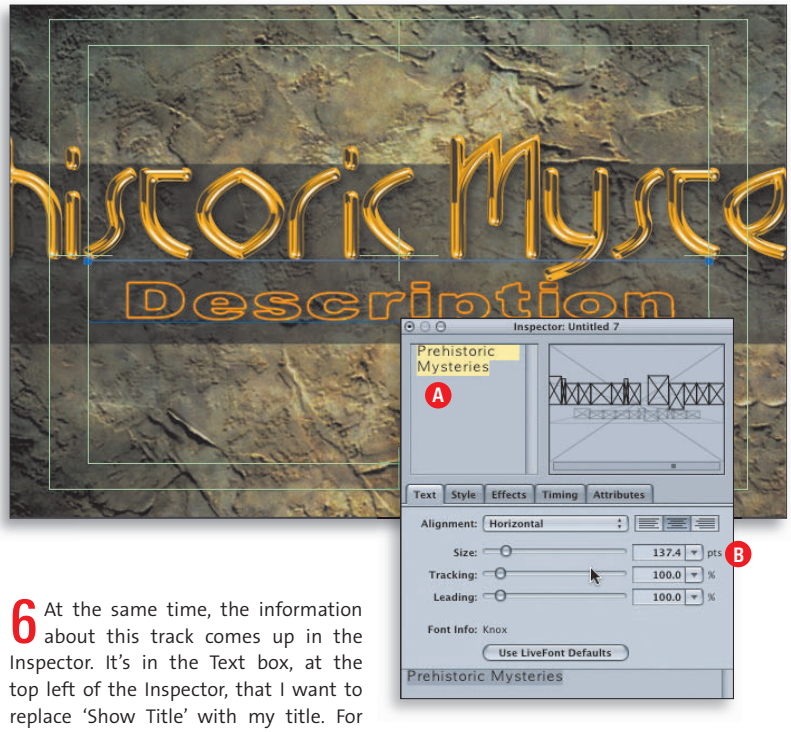


4 If you want to see where this came from in the Media Browser, Control-click on the track and choose Reveal Media in the Browser. Sometimes it's worth doing this just to orient yourself with a new project.



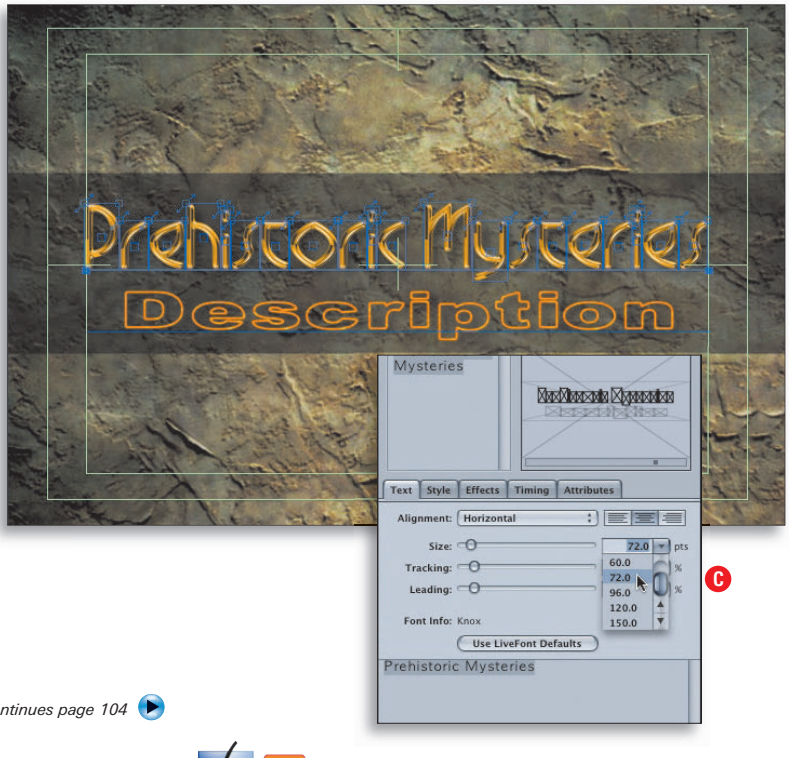
TIP With OS X, Mac users can use a mouse with more than one button – a real pleasure for those of us who have converted from a PC background. If you have a two-button mouse, you can now right-click in just about all OS X applications and use the pop-up menus you previously had to Control-click for. In fact, there are some graphic applications running on OS X that require a three-button mouse. In LiveType, there are a few places where you can right-click to reveal pop-up menus with more functionality. In the Media Browser, for example, you can Play and Stop previews.

5 The first thing I want to do is add my Title and Description. That's simple enough: select Track 01 in the Timeline by clicking on it. You'll know it's the selected track because it will darken and the locking Icon on the left will change.



6 At the same time, the information about this track comes up in the Inspector. It's in the Text box, at the top left of the Inspector, that I want to replace 'Show Title' with my title. For this project, the title is 'Prehistoric Mysteries' (A). That's a lot longer than 'Show Title' – so it might fall off the screen. In order to find this out for certain, I move my playhead in the Timeline to the Out Mark. That works for this template because the effects employed only move the text into position, where it will remain. If there were effects to whisk the title off-screen, I might have to check several spots on the Timeline to make sure that the changes all worked. In this case, I'm right: the beginning and end of my title are falling off the screen.

7 That's easily fixed by changing the size of the text. When I look at the Text tab of the Inspector, I see that the size was set to 137.4pt (B). Select the text in the Text box at the top left, or the bottom, and reduce the font size to 72pt (C) using either the Size slider or the drop-down menu to its left.



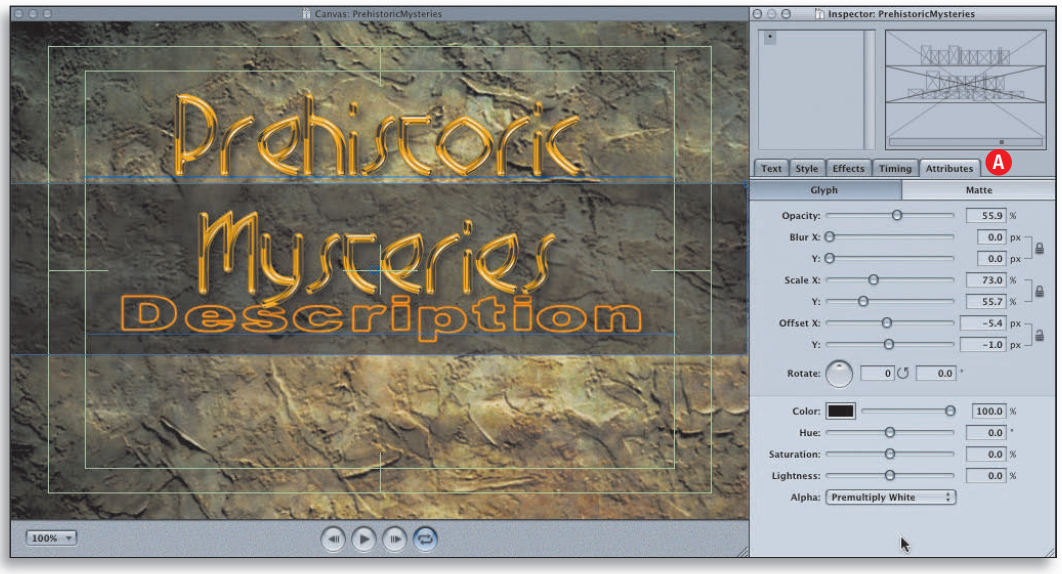
continues page 104

8 Now my title fits on the screen, and it fits inside the green title-safe rectangle, so I know it will have room on either side on an PAL monitor. However, it has lost some of its impact as a title. I can remedy that either by reducing the size of the Description font or by breaking the title into two lines. Let's see what two lines give us. I can break the text into two lines and still stay on the same track by simply inserting a hard return right after the 'c' in 'Prehistoric'.

I highlight the text in the Inspector's text window and hit Enter on the keyboard. The text in the Canvas window reflects the change. Now there is the issue of the space that was originally between the words. That space is now in front of the word 'Mysteries', but I can easily delete that with the Forward Delete key. Now, although the text is on two lines, it's in the wrong place.

9 That's easy to fix as well. Just grab the blue line under the word 'Prehistoric' and you can drag the outline of the bounding boxes up until it looks right and then release. The text bounces into place.

10 Now I'll make my title a little bigger. Using the Inspector again, select the Text tab and increase the size of the text to 96pt. We're nearly there.



11 On Track 03 there's something called Ramp08.psd. This is a Photoshop graphic of some kind that was being used to set the title away from the background. Since we're taking up more of the screen now with our main title, it doesn't make sense to use this ramp to set off the Text. We can move the ramp down, squash its height a bit and use it just for the description, or subtitle. Graphics move round just like everything else. Simply select it in the Timeline and move it.

In this case, however, I would recommend using the Attributes tab (A) in the Inspector, just because it enables you to do several things at the same time.

12 First, let's take a look at the Offset X & Y (A). Let's change that so that our ramp is lower on the screen. The centre of this graphic would be X:0 & Y:0, but we want to move it down. Enter the values X:0px and Y: 110px.

*This feature is taken from **Creative Titling with Final Cut Pro** (ILEX, ISBN 1-904705-15-4) by Diannah Morgan.*

Creative Titling with Final Cut Pro is aimed at anyone with some experience of making films and videos who wishes to create professional-looking titling and title sequences. Encompassing not just the 'mechanics' of titling but also the design and methodology behind successful title sequences, the book will help anyone in the digital-video world produce work that's a cut above the rest.

It is packed with practical hints and tips, and inspirational tutorials, and is a definitive guide to help you create professional-looking title sequences.

Diannah Morgan has been working in digital media for 14 years, with the last four years dedicated to video editing in Final Cut Pro and AVID.

*Its 200 pages include 540 full-colour images. It is available for £24.95, or £19.95 from **www.ilex-press.com**.*

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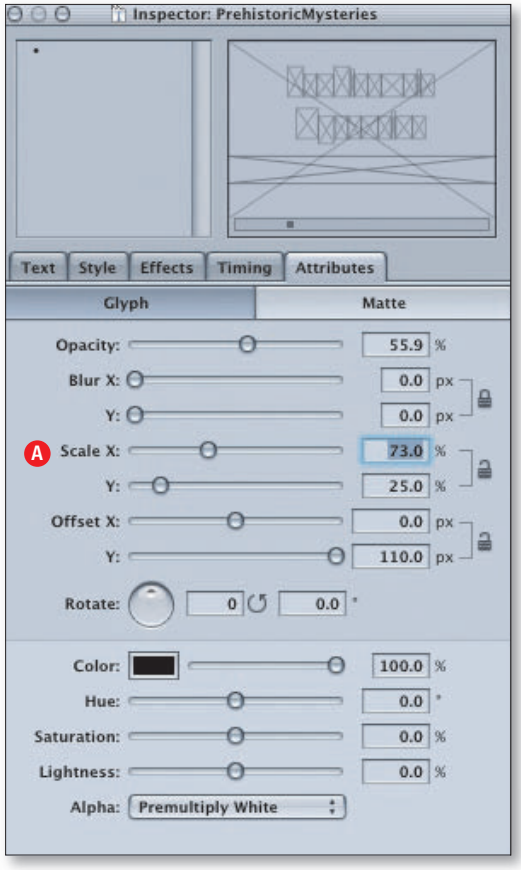
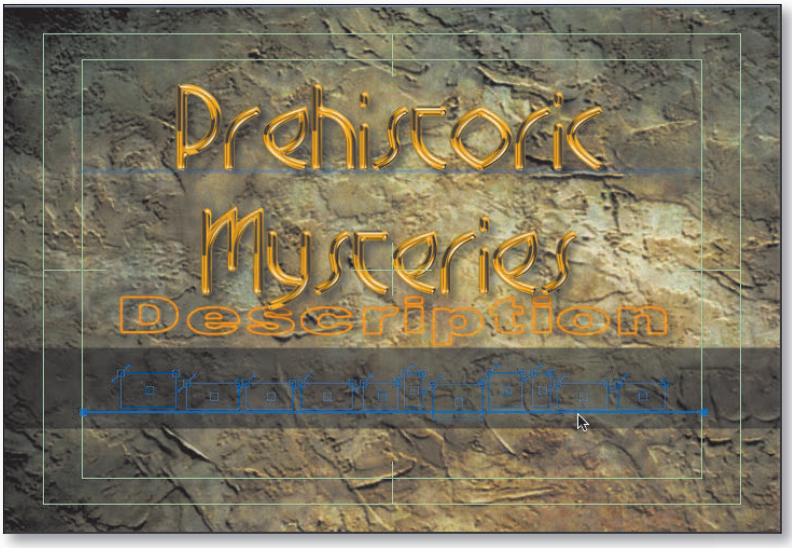
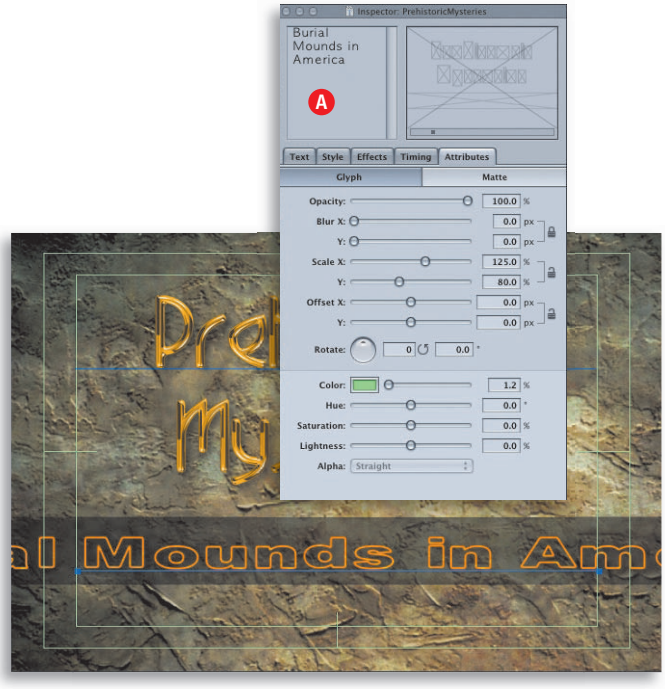


13 Now we want to squash it. If you look at the Scale values for X & Y (A), you can see that it already has been squashed somewhat. We're just going to step on Y a little more. Unlock the Scale values. X may jump to Y's values, but that's OK, just change it back to 73%. Then adjust Y to 25%.

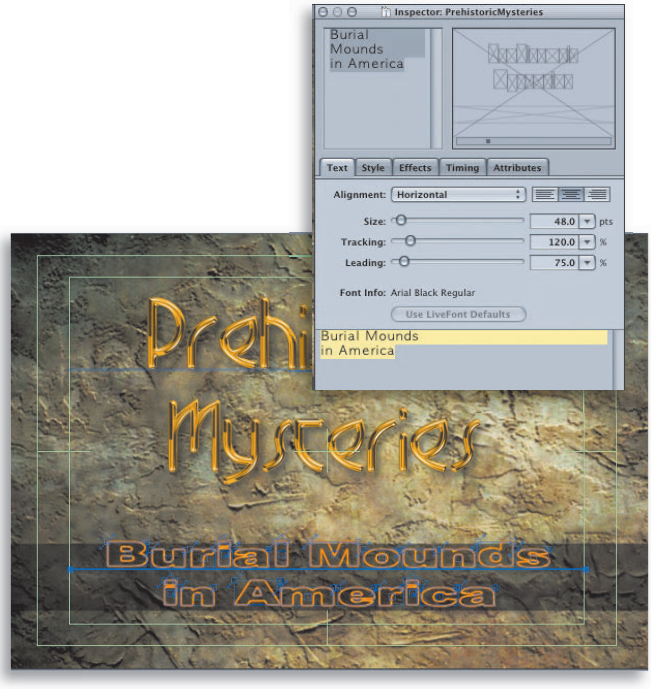
14 Now we need to move the word description down. Click on Track 02 to make it active and drag the word 'Description' down by its blue baseline so it's centred over the ramp. Now our title is really starting to shape up.



TIP If the lock next to the Offset controls is locked, just click on it to unlock it. The lock forces the two parameters X & Y to be the same, so that Y will adopt X's value if you lock them. If you have parameters that are locked but of unequal value, clicking on the lock will change X to Y's values. In any event, if they are locked, you only have to change one and the other will follow.



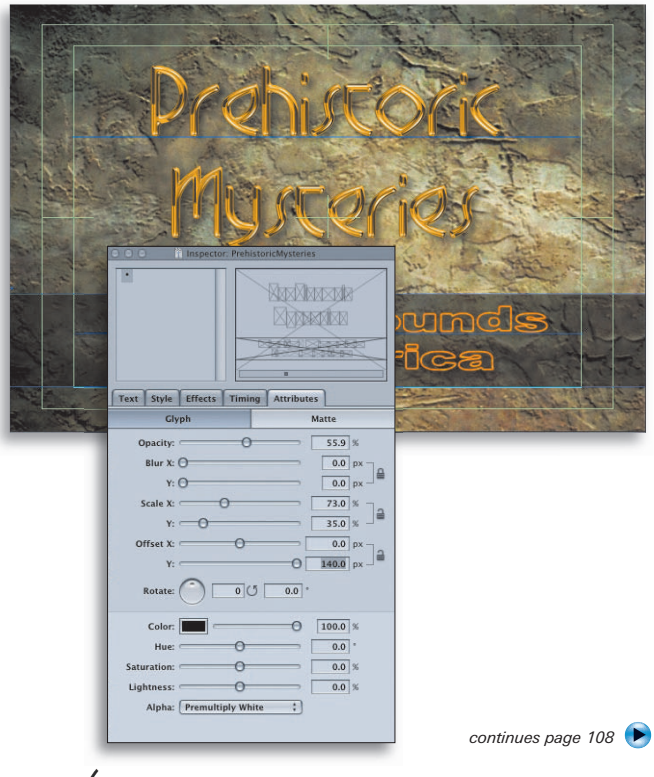
15 The Description, or subtitle, of my programme is 'Burial Mounds in America' (A). Let's see how this fits in. Highlight the text description in the Inspector's Text window and change it to our new text. If you guessed it was too big, you were right. But the producer says it has to fit...



17 With the text selected, I make the Size a little smaller, but I also notice that the Tracking is set to 130%. Make it 120%. Making the text Size 48 pts works for the length. We're also going to reduce the Leading to 75%

16 The thing I do first is to break the text into two lines. To do this, I insert a hard return after 'Mounds'. But it's still too big.

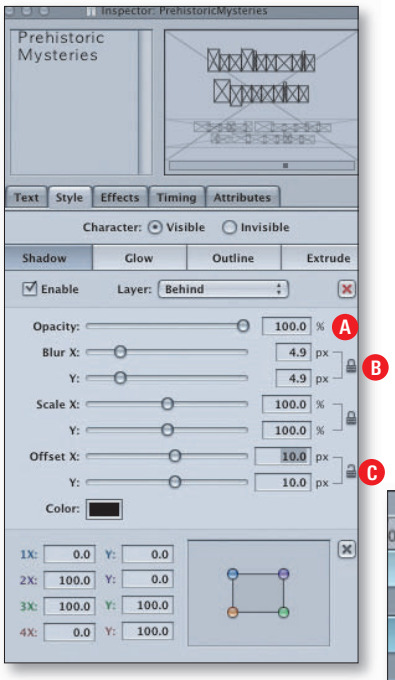
18 We also need to adjust the Ramp again. Select this in the Timeline and go to the Inspector's Attributes tab and make the Scale's Y value 35. We're going to move the Ramp down a bit as well. Set the the Y Offset at 140px.

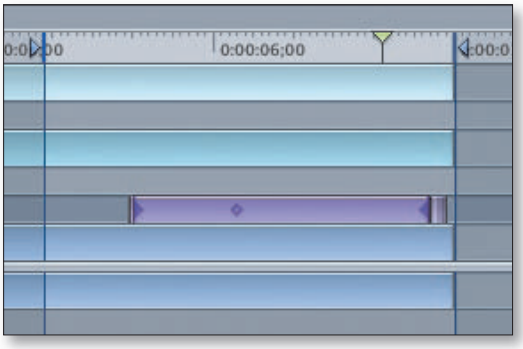


continues page 108

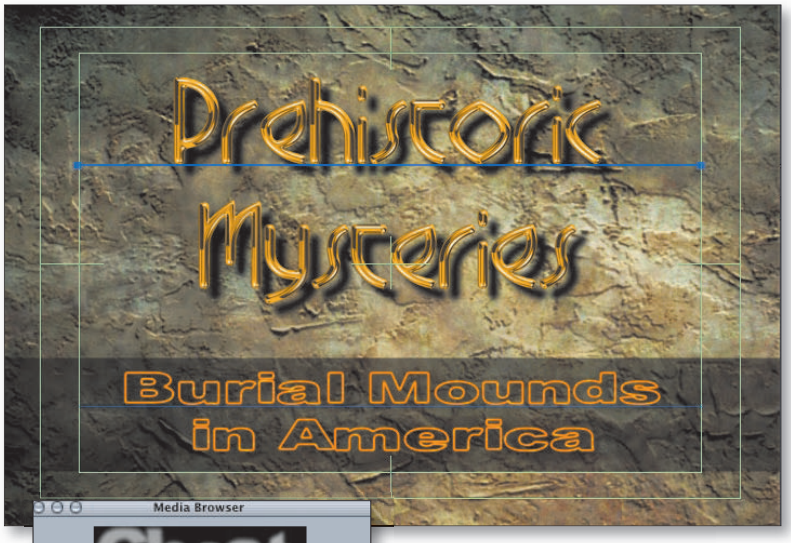
19 One final touch: let's put a bit more drop-shadow behind our main title. Select Track 01 from the Timeline to make it active and from the Inspector's Style tab choose Shadow. It's enabled by default. But we're going to increase the Opacity value to 100% (A), change the Blur value to five for both X & Y (B), and change the Offset to 10px (C).

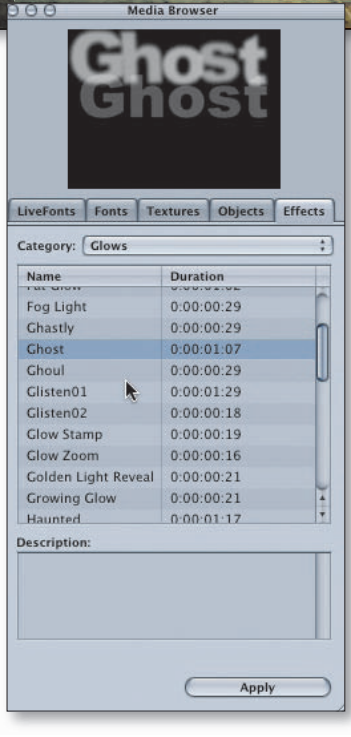
Hit the Play button in the Canvas to preview the modifications. Personally, I'd like the bottom text to have more of an eerie effect, a more ghostly finish, rather than simply sitting there.



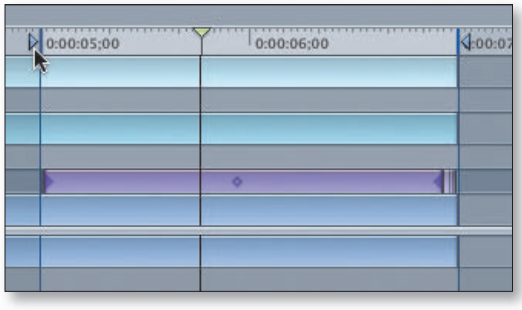


TIP Even though your project may span several seconds, there's no reason why you have to wait for the entire Timeline to load into RAM for a preview. Set your In and Out Marks around the section you want to check, and LiveType will render only that section.

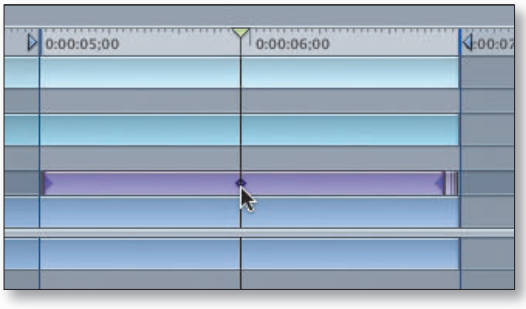




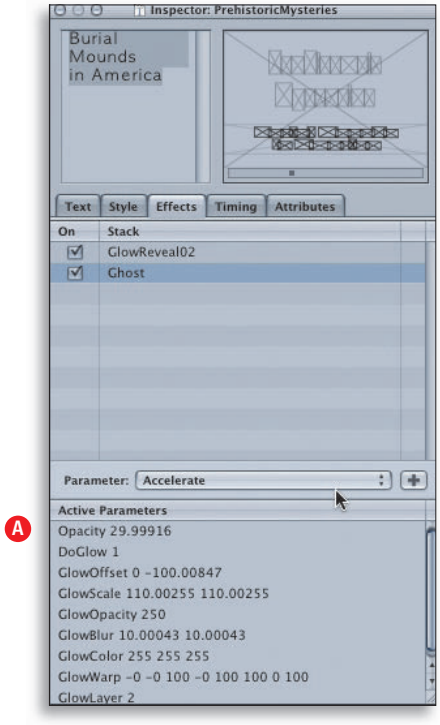
20 The project is running to seven seconds at present. I'm going to set the playhead at five. Select Track 02 – the 'Burial Mounds' text. In the Media Browser, I went searching for Effects under the Glows category and found Ghost.



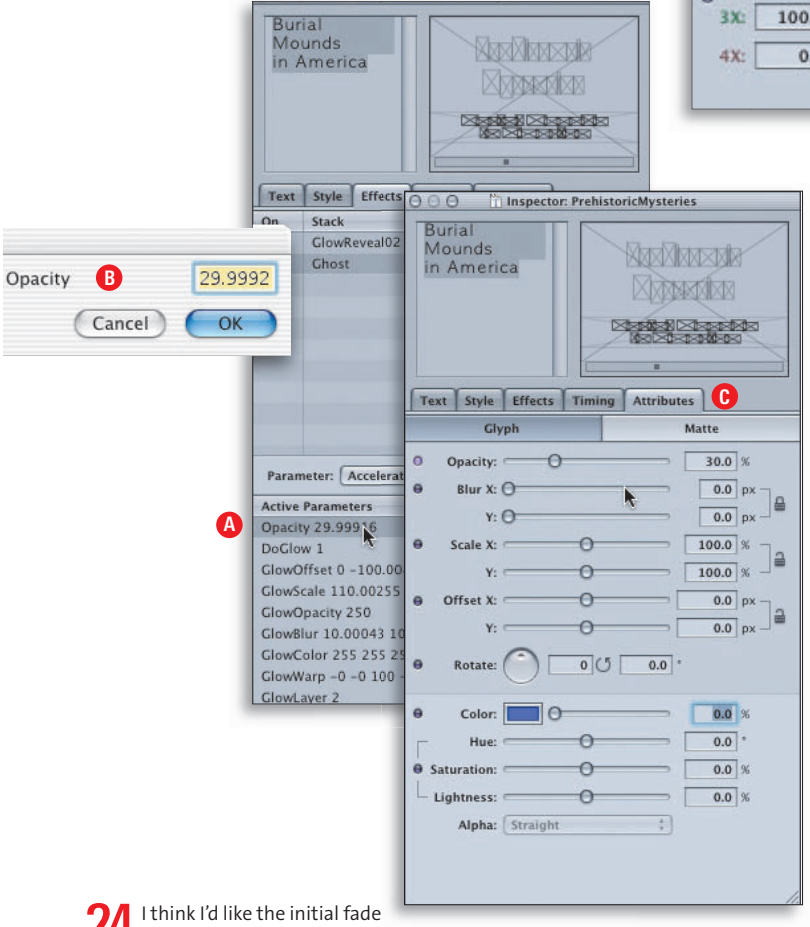
21 The effect is a little weak: first, it happened too fast. I'm going to move it back to five seconds. I can change it simply by adjusting the length of the effect in the Timeline.



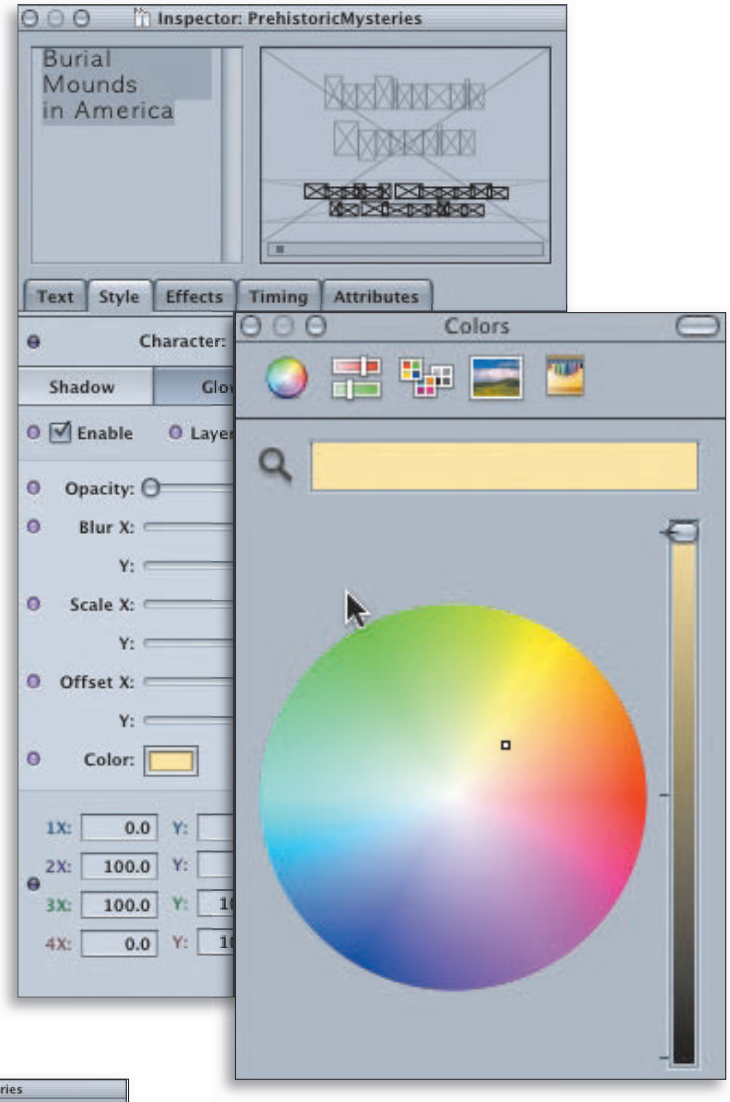
22 Also, the text stays on too long while it's vaporizing. There's a keyframe about a third of the way through the effect. I can move it to halfway by simply clicking on it and dragging.



23 While parked on that keyframe, I can see that the Opacity drops to 29% (A). I can see this because I have the Inspector open to the Effects tab. All the Parameters for this effects keyframe are visible in the Active Parameters window.



24 I think I'd like the initial fade of the letters to happen a little more quickly, so I'll change this value to 20%. I could do that here by double-clicking on it (A) and I'd get a single window (B) that lets me change it. Alternatively, I can go to the Attributes tab (C) and make the change there.



25 I'd also like the vapour to work better with the current colour scheme. I can change this by selecting the first keyframe in the Ghost effect. If I have the Style tab open to the Glow panel, I can change the colour of the glow at this keyframe. Double-click on the Color control and change the colour to beige.

I should do that to the keyframe in the middle as well. By the time the last keyframe is crossed, the vapour trail has disappeared. Preview the final effect. **MW**

I spy with my little iSight

How to use iSight to nab crooks. By Derrick Story

In several recent incidents, thieves have stolen equipment worth thousands of dollars from Brigham Young University. The staff of one department took matters into their own hands and set up a surveillance camera. The perpetrators were promptly recorded and arrested. No high-end, expensive equipment was necessary – just Apple's £119 (including VAT) iSight camera (**www.apple.com/uk/isight**) and Evological Software's $20 EvoCam program (buy online at **www.evological.com**).

Whether checking on pets or protecting a business from criminals, you can set up your own sophisticated surveillance system.

Just one look

EvoCam is one of the most versatile applications you can use with an iSight. The program provides motion detection, movie recording, built-in Web serving, email notification, and a host of other options.

When used as part of a one-camera security system, the setup is straightforward. Point the iSight at the area you want to monitor. If that area is more than a few feet from the host computer, buy additional FireWire cables; depending on the cable quality, you'll gain 20 to 30 feet. To span longer distances, you'll need more cable and a FireWire repeater such as the FH-110, from Macally (AM Micro, **www.ammicro.co.uk**), which adds another 15 feet. You can add a repeater and more cable every 15 feet.

Once you've hooked-up the camera, create a motion-detector sensor: click the New Item drop-down menu in the Items tab of EvoCam's main window, and choose Sensor. Position the movable sensor in an area of likely activity, such as a door. You can create additional sensors if necessary.

Now go to the On Motion drop-down menu and choose Refresh or Record Movie. Refresh takes a still photo when EvoCam detects motion, and Record Movie starts a video sequence. Set the video duration for at least 15 seconds, so you can get a good look at the activity.

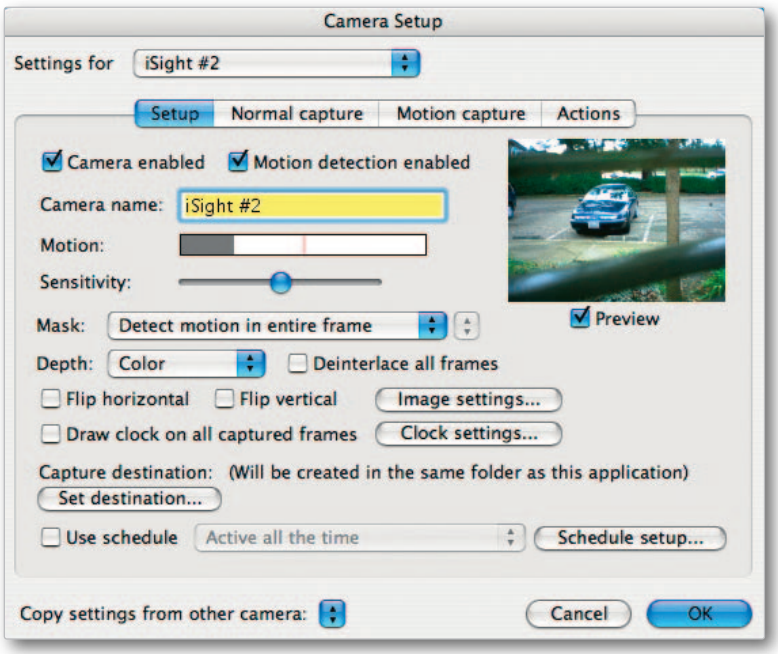
In the Recording tab (also in EvoCam's main window), choose compression settings for the captured video. I start with 10fps (frames per second) at medium quality to keep sizes down; then I review the sample footage. For better rendering, try 15fps at high quality.

When you return to the area where the iSight has been on duty, you can log on to your Mac and review the still images or movies. If the motion detector is activating too easily, such as when a houseplant bends in the breeze of an air conditioner, use the sliding scale in the Items tab to decrease its sensitivity.

If you've a broadband Internet connection, you can instruct EvoCam to upload still images to your FTP server, or to attach them to email messages and automatically send them to you. You can also set-up a constantly refreshing Web page that can be checked from any computer. These options provide nearly unlimited flexibility – EvoCam can even send notifications with images to an Internet-enabled phone for nearly real-time monitoring.

Do a double-take

You can monitor two or more areas, but you'll need more iSights and some supporting hardware. The simplest configuration involves adding a FireWire hub to your Mac and then



SecuritySpy options
SecuritySpy's Camera Setup pane gives you many options, including motion-detection capabilities.

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plugging an iSight into each port in the hub. Your Mac can recognize each camera separately, even though they're connected to the same FireWire port.

There are a couple of software options. EvoCam lets you open a window for each camera. You can configure the settings individually or copy them from one iSight to another. You can even show a picture within a picture by clicking on the Items tab and choosing Video under the New Item drop-down menu.

Another application well suited to multicamera setups is SecuritySpy, from Bensoftware ($50 for one camera, $100 for two to four cameras, $200 for five to eight cameras, and $400 for unlimited cameras; **www.bensoftware.com/ss/**; buy online). SecuritySpy includes many of the same features as EvoCam, such as motion detection, time-lapse capture, FTP upload, Web serving, and e-mail notification. But SecuritySpy's real strength is how easily it manages multiple-camera setups.

With SecuritySpy, cameras can be connected to a Mac in several ways: through FireWire hubs and repeaters; via a network that communicates over Ethernet; with analogue cameras connected to a quad video processor (images are digitized by a converter); and even with USB webcams plugged directly into a Mac. I tested the application using FireWire hubs and repeaters with iSight cameras, but if you already have analogue cameras, SecuritySpy makes it relatively painless to migrate to a Mac-based system.

SecuritySpy also lets you pan, tilt, and zoom a camera remotely. Another bonus: you can set it up to automatically restart if it crashes. This feature can keep it up and running, even if your Mac hits a bump in the road.

Many cameras, no wires

When I installed my security system, even the simplest two-camera setup had me tangled up in wires. I occasionally wanted to move the second camera to different locations without having to rewire the entire building.

I turned to EvoCam because of its Web-serving setting and its support for Rendezvous, Apple's networking technology.

You can set up a second iSight on an AirPort-enabled Mac, preferably a laptop, and broadcast the feed to the monitoring computer running EvoCam or SecuritySpy. The camera works seamlessly with other iSights connected by FireWire or other means.

This configuration gives much more flexibility because the second camera can be as far away as 150 feet (the reach of AirPort), and you don't have to run wire over that distance. The second iSight plugs into the remote computer, which broadcasts the signal to the monitoring computer.

To enable motion-detection on the wireless camera, you'll need SecuritySpy on the monitoring computer. Go to Settings: Video Device Setup, then click the Network Devices tab. Enter the IP address and port number of the remote camera.

If using SecuritySpy on the remote computer, the computer shows the IP address and port number when you enable Web serving. Enter that information into the program's Network Devices dialog box, and then select SecuritySpy from the Device Type drop-down menu. The image from the second camera will appear on the monitoring computer below the image from the first camera. The only hitch is that SecuritySpy is network-aware for registration, too, so you'll have to purchase a $50 single camera code for the remote Mac.

If you don't need SecuritySpy's features for the remote iSight, save money by using EvoCam instead of a second copy of SecuritySpy. Enable Web Serving (in EvoCam's Server tab), and note the IP address. On the monitoring computer, go to SecuritySpy's Video Device Setup dialog box and enter the following information: IP Address, 10.0.1.4 (whatever EvoCam lists as the address); Port Number, 8080; Device Type, Manual configuration; and Request, /webcam.jpg.

Click OK to pick up the image broadcast from EvoCam and display it in SecuritySpy on the monitoring computer. If you enable Rendezvous in EvoCam for the remote iSight, you can also pick up the feed in Safari under the Rendezvous tab on any locally networked computer.

Criminals beware

For less than £150 you can configure one camera to monitor your treasures and record any illicit activity. With two iSight cameras and £70 in software, you can set up a professional multicamera surveillance system every bit as powerful as the systems most businesses use. Depending on needs and budget the camera can be far from the monitoring computer, whether you run cables or go wireless.

And once the cameras are rolling, there are many ways to foil break-ins and to archive video. Explore them all to configure the perfect security system for your needs. **MW**

Tips and troubleshooting

Although EvoCam and SecuritySpy are already easy to use these tips will help you get even better performance.

Web watching If you want to monitor an area but don't need notification and image recording you can set up a wireless remote iSight with EvoCam, enable Rendezvous sharing in the program's preferences, and observe activity through Safari on any Mac on the local network.

Control cameras When monitoring multiple areas with SecuritySpy, turn on the Camera Status window. It lets you control each camera individually. This is particularly helpful for switching cameras from active to passive modes. In passive mode you can still observe activity for a particular camera, but motion-detection and recording is disabled. This is helpful for situations where you know there will be activity but don't necessarily want to record it.

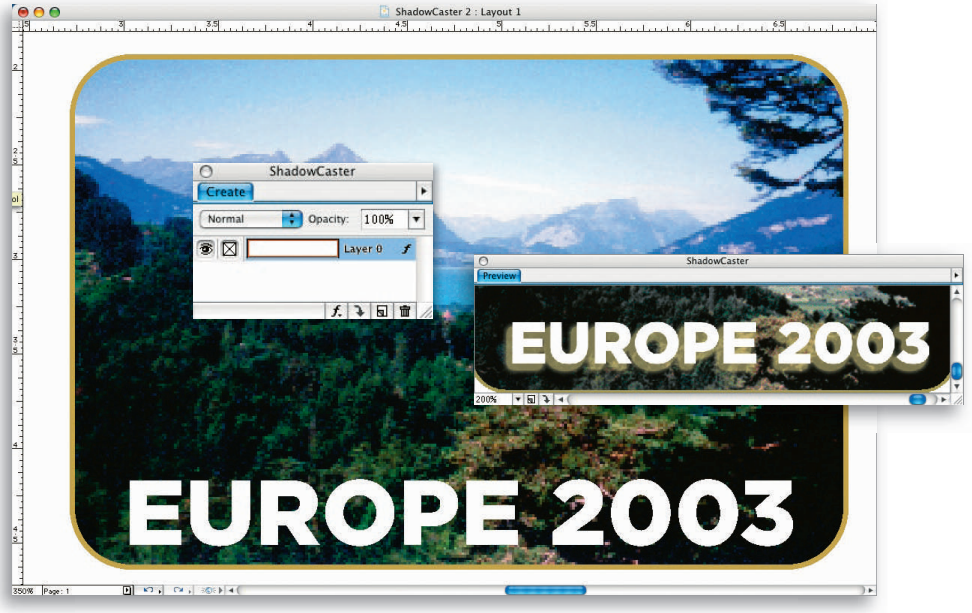
Refresh regularly If you're using EvoCam to broadcast wirelessly and monitoring the feed with SecuritySpy, you may run into a problem: SecuritySpy saying that you need to refresh the image. Simply make sure that EvoCam is actively refreshing and saving at a regular interval. If that doesn't work, launch Safari on your monitoring computer and refresh the remote image in the browser.

EvoCam alerts
Once you've positioned the camera and told EvoCam what areas to watch there are several ways that the software can alert you to motion.

XTend QuarkXPress

The stalwart DPT application is more customizable than you might think. By Jay J Nelson

XTensions, as plug-ins for QuarkXPress are called, add tools for greater creativity and efficiency to the page-layout program. Before QuarkXPress 6 (£995; www.quark.co.uk), there were dozens of XTension developers and hundreds of plug-ins of varying quality. Now there's only a handful of developers, but their XTensions are refined and powerful. These are some of our favourites, all of which are also available for QuarkXPress 4 and 5.



Import Photoshop files

Two XTensions can import any Adobe Photoshop document into an XPress picture box without first flattening it or saving it in TIFF or EPS format: Techno Design's Photoshop Import XT (★★★★/8.0; £59; www.techno-design.com) and a lowly apprentice production's (ALAP) ImagePort 1.3 (★★★★/8.5; £69; www.alap.com). Photoshop Import XT is the less expensive of the two and performs one function: it imports layered, native Photoshop documents via XPress's Get Picture dialog box.

ImagePort offers the same functionality and adds a palette, very similar to Photoshop's Layers palette, that's a real time-saver. You'll jump between programs less frequently when you can enable and disable layers, channels, and paths inside the Photoshop file without leaving XPress. You can easily create a spot varnish, emboss, and foil – just save the special effect as a channel in Photoshop and then turn the channel on or off in XPress. The easy-to-use interface also lets you control the blend mode and opacity for any layer, and choose paths as clipping paths or for text runaround.

Both XTensions include a free viewer XTension so people who don't have the full XTension can print the document.

Drop-shadows and transparency

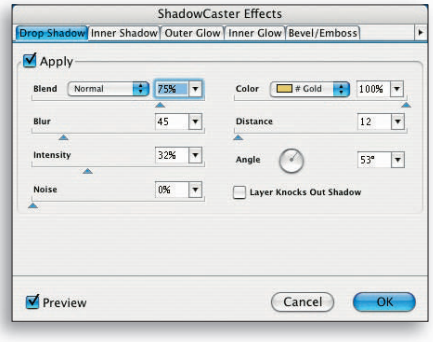
ALAP's ShadowCaster 3.2 (★★★★/7.2; £79) brings remarkable power to XPress. Its transparency and shadow features are similar to those in Adobe InDesign and Photoshop, so it's very easy to learn.

You can add bevels, glows, embosses, inner shadows, and drop-shadows to an item or group, and apply varying levels of transparency to items that overlap other items, using blending modes like Photoshop's (see "Add shadows and more", right). You can group items onto layers and adjust opacity for an entire layer. The program can remove effects from layers, and copy and apply effects from one layer to another. You can save frequently used effects as styles and share those styles with other XPress users.

Be warned that while its features are powerful and its results striking, ShadowCaster's implementation is clunky. It displays the added effects in a preview window, not on the XPress page. You must export the image, which ShadowCaster places behind items on the XPress document page. You then delete the original items manually.

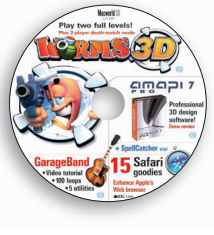
Also, many XPress documents contain vector EPS files, and ShadowCaster previews these in low resolution only. The company recommends converting vector EPS graphics to raster EPS or TIFF format before using ShadowCaster.

continues page 114



Add shadows and more

ShadowCaster's Effects palette lets you control many type and image effects. Try it out for yourself on this month's cover CD.



Change size and shape
With just a few mouse clicks, you can rescale one or more pages.

Export pages as pictures

When you want to use a page or a portion of a page created in XPress as a graphic element in another XPress document, it's much easier to use a picture of the page than it is to include the entire XPress page with all its components. Gluon has you covered with XPressImage 6 (★★★★/8.6; £129; Pro version, £229; www.gluon.com). No other product comes close to its functionality.

XPressImage 6 lets you convert a selection, page, spread, or document to any of 16 file formats (including EPS, TIFF, GIF, JPEG, PDF picture, PNG, Scitex, Targa, BMP, and PCX) at any size and resolution, with or without a black border, as well as bleed and crop marks.

It can also create Java or HTML pages from any or all of a document's pages, with a table of contents that links to each page. When exporting to GIF, JPEG, or PNG format, you have control over colour indexing, compression, and interlacing.

In addition, images can be exported to the Clipboard, so you can instantly paste them into another document or application. XPressImage can also save settings as presets, and converts any document you put in a hot-folder to one of your preset formats.

The program includes a Photoshop plug-in that automatically tells Photoshop to rasterize vector EPS files imported into XPress.

The Pro version (£29) can save XPress boxes as layers in Photoshop, apply a Photoshop Action before saving, and send documents directly to email. It's also AppleScript-able.

Resize entire documents

The good news: the clients love your 8-x-10-inch ad. The bad news: they want "exactly the same ad" in 2.5-x-5, 5-x-4, and 8.5-x-11. That's when it's time for Gluon's ProScaleEV 7 (★★★★/8.4; £89).

While the interface is uninspired, it's certainly efficient. You can resize entire multipage documents, or just selected items, with complete control over what gets scaled and how (see "Change size and shape", left). It scales pages nonproportionally while maintaining the proportions of page items. A Fit To pop-up menu contains common sizes, such as A4, A5, 1/3 page, 1/2 page, letter, and tabloid. Alternatively, you can enter new dimensions, or just click-&-drag selected items to a new size. Whichever method you choose, the process is extremely fast. And if you botch a scaling, you can undo it with ⌘-Z.

Extreme picture-management

Badia Software's BigPicture 2.0 (★★★★/8.4; £79; www.badiasoftware.com) is remarkably helpful when a document contains many pictures. It treats images the way I wish XPress would: namely, listing everything about all of them, showing you where they are, and helping you link and unlink them.

BigPicture 2.0's giant window displays a thumbnail of all pictures, as well as vital information about each one, including colour model, format, file-size, resolution, effective resolution, scaling, angle, compression, application, date modified, fonts, and colours. Or you can select all pictures in a document that match a chosen criterion (for example, all RGB images).

It shows where you used each picture and gives its directory path. Click on the path to reveal the linked picture file in the Finder. You can edit a picture with any appropriate application, and BigPicture updates it in the XPress document it's resaved.

BigPicture has other significant productivity enhancers: it can search for missing or modified pictures and automatically relink the files, unlink all pictures, relink pictures to a different folder (great for swapping high- and low-resolution pictures), and replace any picture with another while maintaining the original transformations you applied in XPress, such as scaling and cropping. And you can change a picture's actual file name inside BigPicture.

Don't stop here

I've highlighted a few XTensions here, but there are plenty of others that are worth investing in. To find and compare XTensions (as well as plug-ins for other professional creative applications), try XChange International (www.xchangeuk.com; 020 7490 4455). **MW**

Version conversion

Markzware's MarkzTools 5 (£163 including VAT; www.markzware.com) consisted of seven modules for salvaging corrupted files, switching between QuarkXPress 4 and 5, and reducing file size. Version 5.5 adds a Convert menu item to XPress 4.1 or 5; this lets you open an XPress 6 document. If the XPress 6 document was created using features not available in versions 4.1 or 5, then the XTension ignores those features. For example, you can import only XPress 6 documents that have one layout, and documents with multiple layers may not convert into XPress 4.1.

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• iMovie hints • Endless iTunes • Mail moves • Keystroke tricks

Mac Help

Handy tips and readers' questions answered. **By Christopher Breen and Rob Griffiths**

iMovie stretches

TIP Reader Dale M asked why – when footage that was shot at a 90-degree angle (with the camera held sideways) and that footage is then rotated in QuickTime Pro and imported into iMovie – it's stretched as if in a fun-house mirror.

Well, Dale, this is a "feature" of iMovie. iMovie displays video at a 4:3 aspect ratio. When you turn your camera sideways, you shoot in a 3:4 ratio. Rotating the video in QuickTime Player can't repair what you've done – iMovie will continue to interpret it as 3:4 video and stretch it in a displeasing way. iMovie doesn't do this to stills, however.

To solve your problem, you can try one of these options:

1. You know the old joke:
"Doc, it hurts when I do this!"
"Well, don't do it, then."

In other words, try to resist the temptation to hold your camera at an angle.

2. If your sideways footage is irreplaceable, you can try recapturing the footage on-screen with a screen-capture tool such as Ambrosia Software's Snapz Pro X 2.0. The $69 version of the program, which includes video capture, offers a 4:3 selection preset that you can use to capture the version of the video you play in QuickTime Player. And yes, it can capture audio at the same time.

3. Trade up to Apple's Final Cut Express 2 (£199 including VAT). The Final Cuts don't stretch video to fit the screen. If you shoot at 3:4, that's what you'll see along with black bars on either side of the footage.

Having on Habeas

TIP If you use a spam filter such as SpamAssassin, SpamSieve or Spamfire (and really, you should), you may have noticed that a message hawking phony pharmaceuticals has managed to make its way past your filter. It has because it includes the Habeas header. *The huh!?*

It's like this: A company called Habeas has developed a scheme that attempts to guarantee the legitimacy of email by implanting identifiable information – in this case, a haiku – in each

continues page 228

iTunes
Search
Browse
Source
Library
Radio
Music Store
Neil Bennett's Music
60's Music
My Top Rated
Recently Played
Top 25 Most Played
A Charlie Brown Christmas
A Concord Jazz Christmas
A.F.U. – Club 18 to Dirty
Alanis Morisette – Under R
Faith No More – The Real T
Franz Ferdinand
Guns N' Roses – Greatest H
John Steward's Playlist
Radio Presets
Skid Row – Slave to the Gri
Skid Row – Thickskin
Slash's Snakepit – Ain't Life
Sleeze Beez – Screwed Blue
Tesla – Psychotic Supper
Test
TV themes
Warrant – Cherry Pie
Yoda sounds
Song Name | Time | Artist | Album | Genre | My Rating | Play Count
What You Give 7:15 Tesla Psychotic Supper Rock 1
Stir It Up 5:40 Tesla Psychotic Supper Rock 1
Can't Stop 5:27 Tesla Psychotic Supper Rock 1
Toke About It 5:24 Tesla Psychotic Supper Rock 1
TV Theme – Spiderman (70's c... 1:00 Theme Songs
Hey, Mr. DJ, I Thought You Sai... 3:48 They Might Be Giants Miscellaneous T Rock
Lady Is A Tramp 1:20 They Might Be Giants Miscellaneous T Rock
Birds Fly 1:25 They Might Be Giants Miscellaneous T Rock
The World's Address (Joshua Fr... 5:43 They Might Be Giants Miscellaneous T Rock
Nightgown of the Sullen Moon 1:58 They Might Be Giants Miscellaneous T Rock
I'll Sink Manhattan 2:36 They Might Be Giants Miscellaneous T Rock
It's Not My Birthday 1:51 They Might Be Giants Miscellaneous T Rock
Hello Radio 0:56 They Might Be Giants Miscellaneous T Rock
Mr. Klaw 1:20 They Might Be Giants Miscellaneous T Rock
Kiss Me, Son of God (alternate ... 1:48 They Might Be Giants Miscellaneous T Rock
The Biggest One 1:22 They Might Be Giants Miscellaneous T Rock
For Science 1:19 They Might Be Giants Miscellaneous T Rock
(She Was A) Hotel Detective (si... 2:20 They Might Be Giants Miscellaneous T Rock
The Famous Polka 1:33 They Might Be Giants Miscellaneous T Rock
When It Rains It Snows 1:33 They Might Be Giants Miscellaneous T Rock
We're the Replacements 1:50 They Might Be Giants Miscellaneous T Rock
Don't Let's Start (single mix) 2:34 They Might Be Giants Miscellaneous T Rock
Anything 2:01 Third Eye Blind Blue Rock
Wounded 4:51 Third Eye Blind Blue Rock
10 Days Late 3:05 Third Eye Blind Blue Rock
Never Let You Go 3:57 Third Eye Blind Blue Rock
Deep Inside Of You 4:10 Third Eye Blind Blue Rock
1000 Julys 3:54 Third Eye Blind Blue Rock
2:35 Third Eye Blind Blue

Music the easy way

TIP At the tail end of last year I replaced my ageing blueberry iMac with a gorgeous 15-inch aluminium PowerBook. When not in use, it lives in a cupboard in the dresser in my living room – on charge so it's always ready to go. On top of a chunky shelf of this dresser lives my stereo.

My cunning plan was to digitize my original vinyl and cassette versions of recordings that were hard to track down on CD. I spent £4.99 on a phono to stereo-jack lead to link my PowerBook and my stereo, and used CD Spin Doctor that comes with Toast Titanium. This worked wonderfully, and it got me thinking.

Having spent many hours ripping my CD collection into iTunes to listen to at work, I always got a little irked going back to the 'old way' of finding CDs and putting them in my stereo at home. Then came the moment of revelation – I used the same lead to plug my PowerBook into the Auxiliary input on my stereo, and lo! I had instant access to my entire CD collection. Now, when we have a party or people over for a meal, rather than change the CDs regularly through the evening, I create a four-hour long playlist of appropriate music, and leave my PowerBook to do the rest. It's hidden in the cupboard, with the lead invisible behind the dresser, and no one is aware of my trickery! £4.99 seems a small price to pay, especially when compared to the cost of a SliMP3.

Stuart Gordon

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Software activation: Practices make perfect

While software developers must figure out how to include activation features in their products, the Business Software Alliance offers a list of best practices. Available at **www.bsa.org/usa/antipiracy/Product-Activation.cfm**, the list covers the following areas:

Privacy Activation shouldn't collect personally identifiable data without users' knowledge and should follow applicable data-protection laws.

Ease of use Activation shouldn't be burdensome to the end user and should, ideally, be limited to a one-time process per machine.

Full disclosure Software makers should clearly explain the process, including what data is collected and how it's transmitted, to users.

Support Users should have access to documentation and tech support to help with activation questions.

Security Methods should protect stored and transmitted activation data.

Speed Activation should be taken care of as quickly as possible.

User control Activation should allow users to easily move programs to a new or upgraded computer in whatever way is authorized by the software licensing agreement.

Activation nation

Q When the hard drive on my Power Mac G4 failed in February, I decided to upgrade to a Power Mac G5. Switching over the software from his old machine, I went to install QuarkXPress 6. The program displayed a message saying that I had exceeded the number of installations allowed. The same thing happened when I tried to reinstall Macromedia's MX 2004 suite. What gives?
Edward Coles

A You've run into a roadblock thrown up by software activation, a feature that developers are increasingly adding to their programs. Activation is an antipiracy tool that prevents users from installing software on unauthorized systems. While developers see activation as an easy solution to the very real problem of software piracy, some users are put off by what they view as an intrusive and burdensome addition to their applications.

"These software companies are not my business partners; they are my vendors," says Coles, who was blocked by activation features because he didn't deactivate the programs before switching computers. "I should not have to ask permission to reinstall the software."

All about activation

Activation is a familiar concept in the Windows world, where it's featured in Microsoft's Windows XP and Office XP, among other software. But activation is only now coming to prominent Mac programs. Quark (**www.quark.co.uk**) added an activation system for single copies of QuarkXPress 6, its page-layout application. Macromedia (**www.macromedia.com/uk**) now includes activation features in its MX 2004 products and in Contribute 2. MYOB (www.myob.com) requires that users authenticate AccountEdge annually, to make sure they're legitimate owners of the software.

Software developers have a clear motivation for making sure that people using their products paid for licenses. The Business Software Alliance (BSA), an industry trade association, contends that the lion's share of the $13 billion that software publishers lose each year to piracy comes from overinstallation – putting copies of a program on more computers than the license allows. By linking a copy of a program to a specific computer, software activation puts the brakes on that practice.

"Activation ensures the software people are using is licensed and authorized," says Bob Kruger, the BSA's vice president of enforcement. "It can deter casual copying with little impact on legitimate use and legitimate customers."

"Reduced piracy allows us to invest in product development," adds Glen Turpin, Quark's director of communications. "And that's where we want to spend our energies."

Here's how activation works with XPress 6: when you install the software, it pulls the ID numbers of your Mac components, such as the hard drive and RAM, to create identification. Quark stresses that it isn't collecting any personal information: "All we're doing is creating a unique number of a unique system," Turpin says. That activates your copy of QuarkXPress; if you move your software to another system, you'll have to reactivate QuarkXPress.

Adobe takes a similar approach for the Windows version of Photoshop CS: when a user registers the program, Adobe logs the serial number and a randomly generated identifying number. "Our secondary objective is to combat piracy," says Drew McManus, director of worldwide antipiracy for Adobe. "Our first is that the honest customer isn't hassled by the program." While Photoshop for Windows is Adobe's only product that currently features activation, the company plans to introduce it to other programs and platforms in the future.

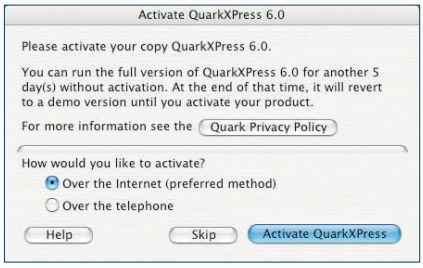
MYOB features a different process: after a year, AccountEdge prompts you to verify company information. You have a 30-day period to authenticate; after that, you won't be able to update information in files until you complete the process, though you can still view and print.

Customer complaints

But activation doesn't always work as smoothly as advertised. A year ago, Intuit added activation features to its TurboTax software for the 2002 tax year (but not to the Mac version). After customer complaints, Intuit dropped activation from the 2003 version of its TurboTax line.

Consumer concerns over activation generally cover two areas – privacy and ease of use. Users are uneasy with anything that even hints of exposing personal data to someone else. And they're even less enthusiastic about things that could infringe upon their fair-use rights.

Take the experience of Yvonne Walker, a certified MYOB consultant who saw a client reject AccountEdge because of the program's authentication requirements. The client expressed concerns about privacy and being locked out of his own files. MYOB stresses that its authentication method doesn't intrude upon private data. "We're not interested in anything more than a match between a serial number and a company's name," says Cynthia Mackewicz, MYOB's general manager. The company claims that it gives plenty of advance notice when authentication is required, to avoid lock-outs. "We're trying to make this a very user-friendly experience," Mackewicz adds.


Activate QuarkXPress 6.0
Please activate your copy QuarkXPress 6.0.
You can run the full version of QuarkXPress 6.0 for another 5 day(s) without activation. At the end of that time, it will revert to a demo version until you activate your product.
For more information see the
Quark Privacy Policy
How would you like to activate?
Over the Internet (preferred method)
Over the telephone
Help
Skip
Activate QuarkXPress

Some see activation driving a wedge between companies and consumers. "Ultimately, the decision for software companies is whether this extra protection is worth the inconvenience to customers, driving them to other, better alternatives," says Wendy Seltzer, staff attorney for the Electronic Freedom Foundation (EFF), a digital-rights group.

Getting it right

The BSA's Kruger concedes that some software makers have stumbled when adding activation to their products. "You always have to have missteps for others who come afterward to get it right," he says. "But I absolutely believe our companies are committed to getting it right."

Quark, for example, recently released an update to XPress that includes improvements to its activation feature. Originally, users couldn't copy-&-paste the lengthy code onto the software's activation screen; with QuarkXPress 6.1, they can. The update also lets users reactivate XPress over the telephone, instead of just online.

"We realize there is a balance between protecting our intellectual property and not wanting to inconvenience users," Quark's Turpin says.

The willingness of developers to improve upon activation features should offer some comfort to users, especially since it looks as though activation will be around for a while – or at least until software pirates figure out a way around it.

So how do companies implement it? The EFF's Seltzer would like to see companies spell out and stick to clear privacy guidelines while adopting features that continue to give users a range of rights. Many of those suggestions are endorsed by the BSA (see "Practices make perfect").

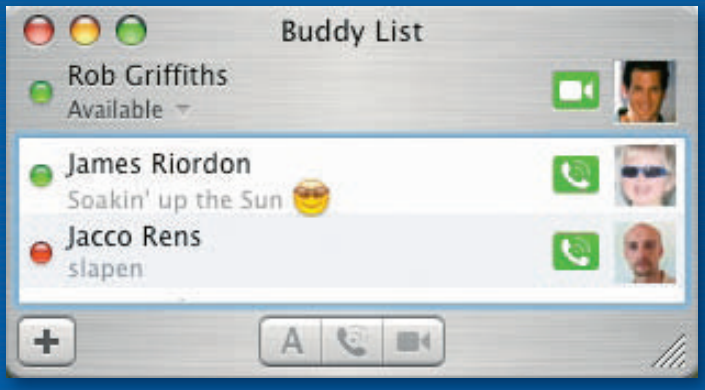
"As long as companies respect the interests of the users, activation technology can coexist with a positive end-user experience," Kruger says.

Philip Michaels; Additional Reporting by Jeffery Battersby

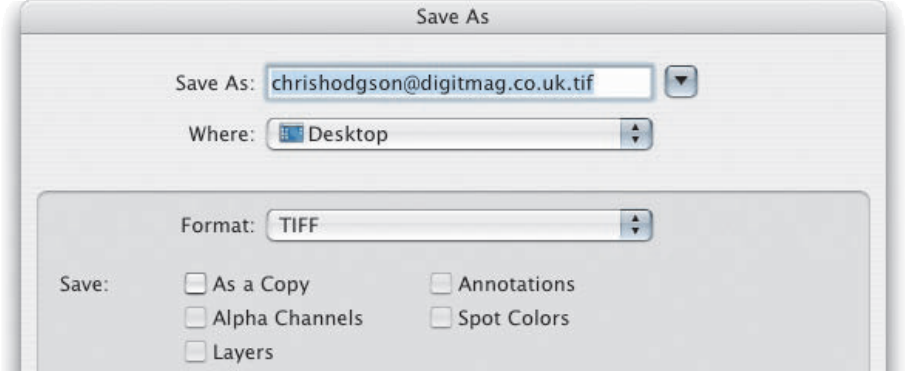
iChat tip of the month: show your moods

TIP Sure, you can set custom status messages in iChat by clicking on your current status, just under your name in the Buddy List window. But did you know you could use emoticons (those cute graphical images you select from the pop-up menu in the iChat text-entry area) as part of your status? If you want to tell the world you're out enjoying some sunshine, for instance, you could show a smiley face wearing a cool pair of shades (see "Emote yourself!").

The trick is to type the symbols used to create the emoticon, instead of relying on the pop-up menu. To create the sunglasses, just type 8); a smiley face is :). To find the other emoticon keystrokes, look at the lower right corner of the smiley pop-up menu in the iChat text-entry area – as you mouse over each smiley image, its keystrokes appear. You won't see the emoticon on your own Mac, but other users will.



Emote yourself!
By adding the keystrokes for the iChat emoticons into your Status message – 8) in this case – you can show the world how you really feel.



legitimate message. When a spam filter sees this haiku, it gives the message a thumbs up and, pretty much regardless of what else the message contains, it's passed along as The Real Deal.

Habeas markets its scheme to those who send large volumes of email that isn't spam. Those who sign on for Habeas are asked to swear that they won't use it for the purposes of evil. To add some muscle to its message, Habeas vows to vigorously prosecute anyone who uses its scheme to pass on spam.

Which brings us to today. At least one spammer has chosen to ignore Habeas' threats and includes the Habeas haiku. This is the aforementioned phony pill spam most of us receive on a regular basis. By default, SpamAssassin and SpamSieve treat messages that contain the haiku with respect. Given that Habeas has been compromised by this spammer since the middle of January and this crud continues to blight our In boxes, you may wish to tell your filter to be more wary of Habeas messages.

iPhoto 4 and firewalls

TIP On a recent episode of TechTV's Call for Help, a caller asked how he might share his iPhoto library on a local network from behind a firewall. I suggested that he open the port necessary to allow sharing in iPhoto 4. At the time I didn't have the exact port number.

After scrounging around Apple's KnowledgeBase, I now do. To allow iPhoto sharing from behind a firewall, open port 8770.

Cursor that Safari

TIP You can use the Option key combined with cursor-keys to jump around within the Safari address box. This is really handy when it comes to safari auto-completing the address box with pages that you don't want to go to: just hit Option-Shift-Down, and you can replace all the junk that Safari has added to the address.

Pete Youngman

Nifty Classic progress meter

TIP I apologize for furnishing you with what may be a "well, duh!" item to some of you, but because I boot into the Classic Environment so rarely, the following is something I've not noticed before.

Under Panther (and, again, this may have occurred in previous versions of Mac OS X), when you launch Classic, the icon of the Mac OS 9 logo that appears in the Dock starts out as a greyish colour. As startup of Classic progresses, the 9 in this logo gradually turns orange – starting with the bottom of the 9 on up to the top.

In addition to this being a tasty bit of eye-candy, it's also useful if you've chosen to not view Classic's march of icons but would like some idea of how long you're likely to wait for Classic to come alive.

Picture perfect

Q How can I assign images to contacts in Address Book or iChat applications? I want my i-apps to be able to recognize all my friends and loved ones.
Sofia Levingstone

A Find a TIFF image that represents the person in question (around 64-x-64 pixels works best). Name it with their email address, and make sure to include the .tiff file extension. For example: person64@example.com.tiff (see left).

Create a folder called Images. Within that folder, create another folder called People. Drag the Images folder into the Library folder at the root level of your OS X volume to make the picture available for all users on your Mac. To make it available for a single account, use the Library folder in that user's Home directory.

Now whenever you look up "Person 64" in Address Book, and whenever he sends you an email or joins you in an iChat session, you'll see the image you assigned to him.

Chuck La Tournous

Der doo doo doo, der dah dah dah

TIP Following the tip in Macworld (May 2004, page 214), Jaguar users like me ought to be away that the say element of osascript needs extra double quotes within the single-quotes as shown below.

osascript -e 'say "doo dah doo dah doo dah doo daa doo daa doo doo doo daa doo dah doo doo dah dah doo doo dahh"'

Using the voice Cellos set to fastest rate, the

Prevent accidental window closures

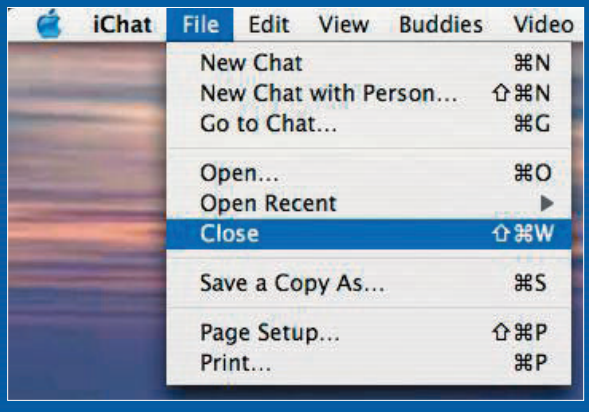
Q I keep accidentally closing a window in one application – usually a long iChat with a close friend – when I meant to close a window in another app. Why did Apple make it so easy for users to close windows by mistake?
Bob Sawyer

A You can avoid doing this in the future. You may already know that you can create your own keyboard shortcuts in OS X 10.3. But did you know that you can also reassign existing shortcuts? By reassigning iChat's Close command, you'll prevent future accidental closures.

Make sure iChat isn't running, and open the Keyboard & Mouse preference pane in System Preferences. Click on the Keyboard Shortcuts tab, and then click on the plus (+) sign to add a new keyboard shortcut.

In the window that appears, select iChat from the Application pop-up menu, enter close in the Menu Title box, and type the keyboard shortcut of your choice in the Keyboard Shortcut box. Since you're replacing ⌘-W, a good choice might be ⌘-shift-W. Click on Add, and close the Keyboard & Mouse pane.

Now launch iChat and behold your newly reassigned close command (see "Keystroke hacking" above). Pressing ⌘-W in iChat now greets you with nothing more than a simple system alert sound. When you need to close a window, type your new command. If you ever want to remove a custom shortcut, open the Keyboard & Mouse preference pane, click on the Keyboard Shortcuts tab, find and highlight the shortcut, and then click on the minus (–) button.



Keystroke hacking
If you find yourself inadvertently closing windows you didn't want to close, consider using the Keyboard & Mouse System Preference to change the default shortcut (⌘-W) to something less-easy to press by mistake.

above is a more pleasing tune than Apple's default!

Going for a Finding Nemo theme, try: osascript -e 'say "fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish fish"'

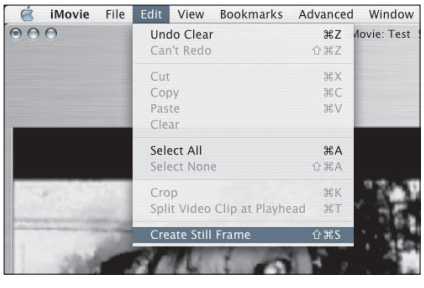
Who needs GarageBand when say does it all…?
Colin Deady

Time on your hands

TIP The Date & Time preference pane lets you view a clock in the menu bar or as a floating window – but not both. If you'd like to keep both clocks in view (see above), there's a relatively easy way to do so.

At the root of your hard drive, navigate to System: Library: CoreServices: Menu Extras. In the Menu Extras folder, control-click on Clock.menu and select Show Package Contents. In the new window that opens, navigate to Contents: Resources. Drag WindowClock.app to your Applications folder (or anywhere else you'd like to keep it) to make a copy of the app. You may have to provide your administrative password, as the system owns this file.

Once you've copied WindowClock.app, launch it with a double-click. You'll find that both clocks are active at the same time. If you've a multibutton mouse, you can right-click on the clock face and use the contextual menu to switch between analog and digital modes (for some reason, control-clicking will not bring up the menu; only a right click will work). To get rid of the desktop clock, just open the Date & Time preference pane, click on the Clock tab, and toggle between menu-bar and desktop clocks – when you toggle back to the menu-bar mode, the desktop clock will vanish.



A favourite iMovie cheat

TIP I'm putting together the next QuickTime tutorial that appears each month on the CD bundled with Macworld, and I just invoked one of my favourite cheats. It goes like this:

Suppose you have a video clip that runs a bit shorter than the narration that accompanies it. You can't allow the clip to fade to black while you're nattering on about what the clip displays, so you must find a way to extend the footage. My solution for doing so is to add a still clip.

To do so, move the playhead to the last frame of the video and choose the Create Still Clip command from the Edit menu. This places a picture of that frame in the Clip Cubby (or whatever Apple calls it).

Drag this picture into the timeline directly after your clip and size it so that it ends where you'd like the clip to end. Add the transition that you'd normally place at the end of the video clip to the end of the picture.

If you have the right kind of clip – a QuickTime screen capture or a scene with little motion – and that picture doesn't stay on screen for too long, your audience may never know that you've added a motionless extension to your video clip.

I'm your backdoor man

TIP Two recent incidents prompt this entry. The first is that, during a troubleshooting session with my wife's iMac, my helpmate replied to my request for her email password with the succinct, but ultimately unhelpful "Password?"

The second was a message from reader Guy Parrot, who managed to enter the wrong password for a secure Web site and, adding insult to injury, replied to Safari's question about saving that password in such a way that he was later unable to enter the site.

Which, of course, got me thinking about the oft-overlooked Keychain Access application (tucked away in the Utilities folder within the Applications folder). Keychain Access was able to solve both problems.

Problem 1 solution: Because I set up my wife's user account for Mac OS X, I know her Administrator's password. With that password in hand, all I had to do was launch Keychain Access, select the keychain entry for her email account, enable the Show Password option, enter her Administrator's password when prompted, and the email password was revealed.

Problem 2 solution: Mr Parrot had saved an incorrect password to his keychain and then instructed the Mac OS to automatically use that password without his input. To put things right,

continues page 230

Creating read-only Mail archives

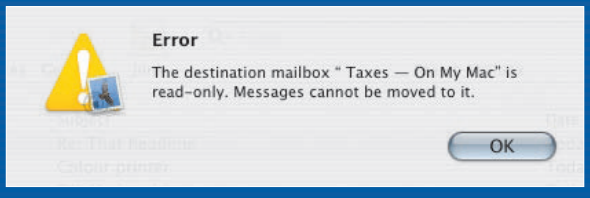
TIP If you organize your messages in folders in Apple's Mail application, you may want some of those folders to have read-only access and still be accessible from Mail (for instance, a collection of emails related to your 2003 taxes). Although you can't assign a folder read-only access from Mail, you can do so easily in the Finder.

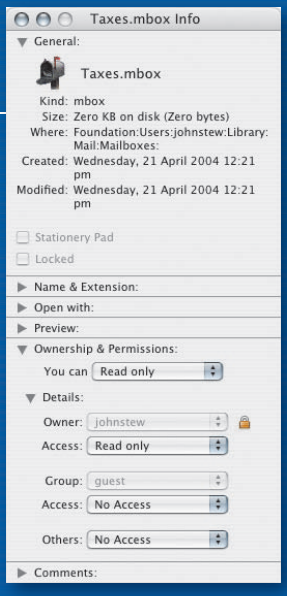
Open your Users: Library: Mail: Mailboxes folder (it's OK if Mail is running); you should see the various folders you use to organize your mail (subfolders will be one level lower, within their respective parent folders).

To create a read-only Mail folder, first get information (⌘-I) on the folder of interest. Then, in the Ownership & Permissions section of the window, change the You Can pop-up menu from Read & Write to Read Only, and close the Get Info window.

When you return to Mail, you'll find that you can no longer drag a message into the folder you modified. Mail will simply display a warning dialog box stating that the folder is read-only.

However, you can view all the messages within the folder, to quickly access archived messages.





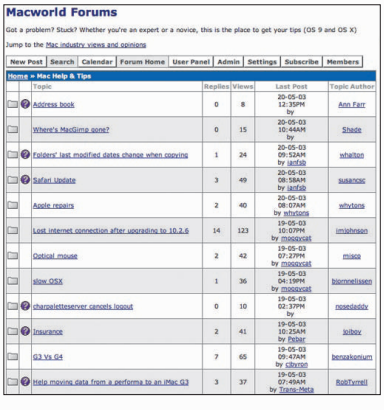
GET QUICK ANSWERS HERE

Macworld contributing editor Christopher Breen answers readers' questions and selects reader-submitted tips for this column.

Tips: Send your tips (include your address and phone number, and mark Q&A in the subject line of the email) to **qanda@macworld.co.uk**. We pay £25 for each tip published here. We regret that we cannot make personal replies.

Questions: If you have a question, the fastest way to an answer is via Macworld's forums: go to **www.macworld.co.uk/forums**. The Mac Help & Tips Forum should be your first port of call. You need to register to use the forums, but it's free.

The forums are where Macworld editors and a host of Mac know-it-alls make it our business to put your Mac back in the pink. Before you post your cry for help, search the forum for similar queries. It's likely that if you're having problems, then someone else has already encountered and maybe even solved them.


Macworld Forums
Got a problem? Stuck? Whether you're an expert or a novice, this is the place to get your tips (OS 9 and OS X)
Jump to the Mac industry views and opinions
New Post | Search | Calendar | Forum Home | User Panel | Admin | Settings | Subscribe | Members
Home » Mac Help & Tips
Topic | Replies | Views | Last Post | Topic Author
Address book | 0 | 8 | 20-05-03 12:35PM by | Ann Farr
Where's MacGimp gone? | 0 | 15 | 20-05-03 10:46AM by | Shade
Folders' last modified dates change when copying | 1 | 24 | 20-05-03 09:52AM by ianfab | whalton
Safari Update | 3 | 49 | 20-05-03 08:58AM by ianfab | susancac
Apple repairs | 2 | 40 | 20-05-03 08:07AM by whytons | whytons
Lost internet connection after upgrading to 10.2.6 | 14 | 123 | 19-05-03 10:07PM by mopoycat | imjohnson
Optical mouse | 2 | 42 | 19-05-03 07:27PM by mopoycat | misco
slow OSX | 1 | 36 | 19-05-03 04:19PM by mopoycat | bjornellissen
charpalettesever cancels logout | 0 | 10 | 19-05-03 02:37PM by | nospeladdy
Insurance | 2 | 41 | 19-05-03 10:25AM by Peter | jolboy
G3 Vs G4 | 7 | 65 | 19-05-03 09:47AM by cilynon | benzakonium
Help moving data from a performa to an iMac G3 | 3 | 37 | 19-05-03 07:49AM by Trans-Meta | RobTurnell

that incorrect password had to go. To kill it was the work of a moment. I instructed him to select the password for that site in Keychain Access and choose Delete from the Edit menu. When he next visits that site, he'll be prompted for the password and – one would hope – will enter the correct password and then save this password to his keychain.

Upgrade woe

Q **We operate several Macs and generally use Timbuktu Pro for controlling them remotely. However, one computer that currently runs on Mac OS 8.5 (yes, I know it's old) needs 8.6 or higher to run Timbuktu Pro – but we cannot find an upgrade anywhere. We don't want OS X. Can you think of anywhere we can download an upgrade?**

A You can download previously free updates from Apple's Web Site. Search for 8.6 at **www.apple.com/support/downloads/**. You'll find the Mac OS 8.6 Update Document and Software download at **docs.info.apple.com/article.html?artnum=60283**.

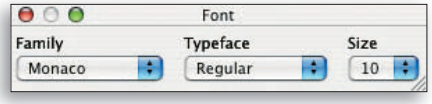
It's no longer possible to buy Mac OS 9, but you'll find plenty of people selling old discs on eBay (**www.ebay.co.uk**). You can then download the upgrades from Apple, up to the latest 9.2.2

A sharing shortcut

TIP My main Mac was acting up to the point where I decided to install a fresh copy of Panther using the Installer's Archive and Install option. Although my files were maintained after the installation, a few niggling annoyances cropped up.

Among these was a printer that refused to print because its driver wasn't included with Panther. I knew where to download the driver, but I wanted to print *now*. Then a little light came on.

My PowerBook had the proper driver installed and could see the printer as clear as day. All I had to do was switch on Printer Sharing in the Sharing system preference and, lo, the printer appeared in the Shared Printers submenu on my main Mac.



Save space when choosing fonts

Q **I'm fed up with the huge Font panel (used in applications such as TextEdit and Mail). I'm using a 12-inch PowerBook, and the panel is so large that I have trouble seeing what's underneath it at times. Is there anything I can do?**
Nathan Howarth

A Luckily, there's a very simple solution (in both OS X 10.2 and OS X 10.3): just resize the panel by dragging the resizing triangle (located in the lower right corner) up and to the left. As you do so, the Font panel shrinks intelligently until you're left with just the basics (see above).

Although you lose the Collections column and most of the panel's other special features, you can still select the font family, typeface, and size, which should meet your needs in most situations. Once the panel is minimized, you can easily flip back and forth between the miniature view and the full-size view by clicking on the green resize button in the panel's menu bar.

Address Book groups

TIP One nice new feature of Panther's Address Book app is its ability to display a contact's group memberships quickly and easily. For instance, if you've created a group to ease your Christmas-card chores (by taking advantage of another new Address Book feature, the ability to print address labels), you may not remember whether your Aunt Martha is in the group.

Previous to Mac OS X 10.3's release, you had to go into your Holiday Card group and eyeball its contacts – not exactly the best method when you've got many contacts in a list. In 10.3, you can simply select the All group, highlight Aunt Martha's name, and hold down the option key. Address Book will highlight the names of all groups that include her. MW

Macworld.co.uk For the latest daily news, hot reviews, buyers' guide and special offers.

Macworld Buyers' Guide

Apple divides its Macs into consumer and professional, and desktop and portable. But just because you fancy an iMac, don't rule out a portable – you might be surprised how much a PowerBook or iBook suits you. And some users may require a "pro" machine even if they class themselves as a "consumer". Decide what it is you want to do, and follow our advice here.

Desktop or portable

If you're often on the move, consider an iBook or PowerBook. You can easily hook each up to a larger monitor and separate mouse on a desk when you're back at base. They're easy to hide away, and with AirPort wireless networking, you can access the Internet up to 150-feet away from your telephone connection.

Apple's portables come loaded with every high-tech port needed, unlike most Windows laptops. The iBook is ultra-small, lightweight and, importantly for students, relatively impact-resistant – and even its 12-inch screen is still sizeable. The pro PowerBook G4 is super-thin and lightweight, and boasts screens from 12 to 17 inches. Its set of ports, including S-Video and Gigabit Ethernet, is impressive – as is its DVD-R SuperDrive.

Performance

Gauging speed by **processor** megahertz ratings is the easy – but incorrect – way to judge performance. You must take into account the amount of memory, the size and speed of the hard disk, graphics card and video memory, and size of cache.

The PowerPC G5 processor is a super-fast, next-generation 64-bit chip from IBM. If blistering performance at the bleeding edge is what you need, a Power Mac G5 is a must.

The PowerPC G4 processor from Motorola drives the Power Mac G4, PowerBook, iMac and eMac. It is specially optimized to speed-up selected programs via AltiVec technology.

Apple now uses two PowerPC processors: the **G4** and **G5**. Both include AltiVec technology that makes specially optimized software run even faster. The full potential of the G5 will be realized when software – and especially the operating system – is optimized for its 64-bit architecture. Currently, nearly all software runs at the G4's 32-bit level. That said, the G5 is still faster – but not enough to disregard the speedy G4, which has plenty of life left in it yet.

Word-processing, spreadsheets, email and Web browsing don't require the very fastest processors, but digital photography, video, and graphics do.

The more memory (**RAM**) you have on your Mac, the faster your applications will run, and you'll be able to keep more programs open at the same time. We recommend you upgrade the memory to *at least* 512MB of RAM.

Fitting extra RAM to a Mac is easy, but get your reseller to fit it if you're nervous. Depending on which model you buy, an extra 256MB can cost as little as £35 online (try **www.crucial.com/uk**), and adding 512MB more will set you back about £100. RAM for portables often costs more.

Cache is a memory subsystem that stores frequently used RAM data for even faster processing access. It's necessary because most computers suffer from performance bottlenecks that slow data down as it travels around the system. The Power Mac G5 features super-fast interconnects, and so requires less cache – the data speeds around fast enough without it.

Most consumers won't get near filling their **hard disk** with their AppleWorks files, digital snaps and Web downloads. Video-editors and iTunes users, however, will require a larger disk. Get as many gigabytes as possible. You can't upgrade the hard drives in the iBook, PowerBook, iMac or eMac, but you can add inexpensive external FireWire disks.

A **video card** connects a Mac to its display. Serious gamers and creative professionals should aim for one of the ATI Radeon or NVidia GeForce4 cards found in Power Macs, with 64MB of video RAM onboard. You can't later upgrade the video card in any of the other systems – but this shouldn't matter for many users.

Features

Apple differentiates its Mac models by type of optical drive: CD or DVD. All Macs come with at least a combination **DVD-ROM/CD-RW** drive that can read and writes CDs, and can play DVDs and DVD movies. The **DVD-R SuperDrive** does all that, and writes DVDs (DVD-R) of iMovies and digital snaps that play in domestic DVD players. The laptops' SuperDrive now matches the desktops' drive, writing to DVD at 4x-speed.

All Macs come with top-of-the range connectivity features. Networking is at least 10/100BaseT **Ethernet**, with 1,000BaseT for Power Macs and the 15-inch and 17-inch PowerBooks.

All Macs offer at least two USB **ports** for peripherals, and at least one FireWire 400 (400Mbps) for digital video and peripherals. All now boast 480Mbps USB 2.0, which is compatible with USB 1.1 devices. The 15-inch and 17-inch PowerBooks and Power Mac G5 include a FireWire 800 port (800Mbps).

All Macs ship with an internal 56Kbps modem. If you're frequently connected to the the Internet for long periods of time (especially in peak weekday times), you'll probably save call charges by upgrading to a faster **ADSL** or **cable** broadband connection. You'll need to add an ADSL modem or router, and pay an ISP from around £23 a month for the faster access – but you pay no call charges no matter how long a Mac is connected, and you can use the phone at the same time. Unfortunately, not all areas are ADSL ready – check your phone number at: **www.bt.com/broadband**.

Apple's **AirPort** wireless-networking technology – based on either the IEEE 802.11b or 802.11g industry standards – lets you browse the Internet from anywhere in your home, up to 150 feet away from your phone line or Ethernet connection. AirPort uses radio waves, so it even works through walls. The latest Macs use **AirPort Extreme** (802.11g), boasting 54Mbps speeds, compared to the older AirPort's 11Mbps.

All Apple's new Macs come with the top-quality **iLife 04** suite of integrated digital-lifestyle software. **iMovie** is a simple but powerful digital-video editor that works with FireWire. **iTunes** is music 'jukebox' software that can manage MP3 and AAC files, and burn audio CDs. **iPhoto** is a superb program that helps import, edit, organize and share digital photos – now including online print and book ordering. DVD-R SuperDrive models come with **iDVD**, which makes creating DVDs a doddle. Some Macs also ship with **AppleWorks** – a suite of easy-to-use business programs. The consumer Macs also ship with reference CDs and games.

Apple charges £69 per year for its online-based iTools, now called **.Mac.** You get an email address, 100MB of free Web space, simple Web-site templates, backup and virus protection.

Apple and its partners have made great efforts to ensure that Macs are largely **compatible with Windows PCs**. USB and FireWire help on connectivity. Emulation programs such as Virtual PC can run Windows software straight from a Mac.

Key applications, such as Microsoft Office, Adobe Photoshop and Macromedia Dreamweaver are all fully compatible with their Windows counterparts. You can swap Word, Excel and PowerPoint documents between the platforms.

Education pricing

Apple offers special pricing for educational users. Institutions such as schools and colleges get the biggest discounts. Teachers and students get about a 9 per cent discount via the online Apple Store – click on Education. **MW**

continues page 232

UPDATED 19/04/04

The main selling points of the **iBook** are its compact, lightweight, impact-resistant case and low price. Its processor has recently been upgraded to a G4, which makes it a very capable OS X machine.

The 256MB RAM is fine for OS X and a couple of programs, but performance will be boosted greatly by adding as much as you can. Apple now states the maximum RAM as 1.25GB.

The iBook ships with iMovie, iTunes and iPhoto. Word-processing, database, spreadsheet, presentations and graphics tools are provided by AppleWorks.

S-Video and composite video output require a £15 Apple Video Adaptor. Video mirroring to a projector or monitor is via the Apple VGA Display Adaptor.
Pros: Small enough to slip into a backpack, tough enough for schoolkids, the G4 iBook is a more than capable and affordable consumer portable. DVD-R option on 14-inch iBooks; AirPort Card included with 1.2GHz model.
Cons: Requires more RAM. Get larger hard disk if you're an iTunes or iMovie user. The 14.1-inch model has a larger viewing area, but no more pixels and is half a kilo heavier.

All iBooks:
Video card: 32MB ATI Mobility Radeon 9200. **Resolution:** 1,024-x-768 pixels
Memory: 256MB (Max: 640MB)
Cache: 512K L2
USB 2.0: 2 **FireWire 400:** 1
Ethernet: 10/100BaseT **AirPort:** 54Mbps

■ Entry-level 12.1-inch TFT:
Processor: 1GHz G4
Hard disk: 30GB
Optical: DVD-ROM/CD-RW
Weight: 2.2kg **Price:** £799
Star Rating: ★★★★/8.5

■ Entry-level 14.1-inch TFT:
Processor: 1GHz G4
Hard disk: 40GB
Optical: DVD-ROM/CD-RW
Weight: 2.2kg **Price:** £899
(+£120 for DVD-R SuperDrive model)
Star Rating: ★★★★/8.2

■ High-end 14.1-inch TFT:
Processor: 1.2GHz G4
Hard disk: 60GB
Optical: DVD-ROM/CD-RW
Weight: 2.7kg **Price:** £1,049
(+£120 for DVD-R SuperDrive model)
Star Rating: ★★★★/7.8

UPDATED 16/04/04

For the consumer/education market, the **eMac** offers a fast G4 processor, large CRT screen (with surprisingly small footprint), multiple optical-drive options, and superb pricing. It measures up well against the iMac. Its built-in 17-inch CRT display offers more screen-space at larger resolutions than the 15-inch LCD iMac. It costs a lot less than the top-end 17-inch iMac. Many will be swayed, however, by the iMac's LCD screen (think long and hard about screen size) and flexibility.

It's fast enough for consumer and educational tasks (Web, email, word-processing, accounts, digital photography, iTunes, etc), and capable of running even pro applications such as Adobe Photoshop.

Add more RAM; at least 512MB is recommended. Via the Apple Store, this will cost up to £120; online, it can be found for £60. A tilt-&-swivel stand for the eMac costs £49.

The eMac ships with the Apple programs (iMovie, iTunes, iPhoto; and iDVD on the SuperDrive model), as well as the World Book encyclopedia, and Deimos Rising game. Word-processing, spreadsheet, database, presentations and graphics tools are provided by AppleWorks.
Pros: Top features at amazing prices. Impressive screen resolution.
Cons: Requires more RAM. Entry-level model's hard drive not a giant – external disk may later be required. Not as flexible as iMac. Limited internal expandability (extra RAM and AirPort Card only), although external alternatives are plentiful.

All eMacs:
Processor: 1.25GHz G4
Screen: 17-inch CRT (1,280-x-960 pixels)
Video card: 32MB ATI Radeon 9200
Cache: 512K L2
USB 2.0: 3 **FireWire 400:** 2 **PCI:** 0
Ethernet: 10/100BaseT **AirPort:** 54Mbps

■ Entry-level:
Memory: 256MB (Max: 1GB)
Hard disk: 40GB
Optical: DVD-ROM/CD-RW
Price: £549
Star Rating: ★★★★★/9.1

■ High-end:
Memory: 256MB (Max: 1GB)
Hard disk: 80GB
Optical: DVD-R SuperDrive (4x)
Price: £699
Star Rating: ★★★★★/9.3

UPDATED 08/09/03

The **iMac** boasts a "floating" flat-panel LCD screen that is held by a flexible chrome-pipe neck, allowing you to move it up and down and from side to side to gain a more comfortable viewing experience. LCD screens aren't just kinder to the neck, they're also easier on the eye than CRTs.

While the 15-inch LCD doesn't offer as large a viewing area as the eMac's, the widescreen 17- and 20-inch LCDs are particularly handy for multi-paletted pro applications. Inevitably, the LCD screens make the iMac more expensive than the CRT-based eMac – but offer compelling reasons for the extra outlay. The dome-like base also saves valuable desk space.

The iMacs ship with the great Apple programs (iMovie, iTunes, iPhoto; and iDVD on the SuperDrive model), encyclopedia, games, and AppleWorks.
Pros: Nothing beats the iMac on looks, and the adjustable LCD screen is a real improvement on the static CRT – although the eMac's maximum resolution is greater than the 15-inch G4 iMac's.
Cons: Like the eMac, the G4 iMac has limited internal expandability (extra RAM and AirPort Card only), although inexpensive external alternatives are plentiful.

All G4 iMacs: **Ethernet:** 10/100BaseT
USB 2.0: 3 **FireWire 400:** 2 **PCI:** 0
Hard disk: 80GB **AirPort:** 54Mbps
RAM: 256MB (Max: 1GB) **Cache:** 256K L2
Apple Pro Speakers: Included.

■ 15-inch:
Processor: 1GHz G4
Optical: DVD-ROM/CD-RW
Screen: 15-inch LCD (1,024-x-768 pixels)
Video card: 32MB NVidia GeForce4 MX
Price: £999
Star Rating: ★★★★/8.3

■ Widescreen 17-inch:
Processor: 1.25GHz G4
Optical: DVD-R SuperDrive (4x)
Screen: 17-inch LCD (1,440-x-900 pixels)
Video card: 64MB GeForce FX 5200 Ultra
Price: £1,449
Star Rating: ★★★★/8.5

■ Widescreen 20-inch:
Processor: 1.25GHz G4
Optical: DVD-R SuperDrive (4x)
Screen: 20-inch LCD (1,680-x-1,050 pixels)
Video card: 64MB GeForce FX 5200 Ultra
Price: £1,749
Star Rating: ★★★★/8.6

UPDATED 08/10/03

Despite the arrival of the Power Mac G5, Apple is still selling the minitower **Power Mac G4**. Prices are reasonable, but you don't get the ultimate in performance.

Power users should seriously consider saving for the Power Mac G5, which is far more advanced and potentially a lot more powerful.

The stop-gap Power Mac G4 range offers older specs than those available previously. There's no FireWire 800, USB 2.0, or AirPort Extreme/Bluetooth built in.

But it does offer something that the G5 doesn't: the ability to boot in Mac OS 9. This may interest musicians and designers who are still waiting for OS X-compatible plug-ins. This is the only reason to consider the Power Mac G4 these days.
Pros: The entry-level model is an inexpensive pro-tower that offers OS 9 bootability – still important to some users. The dual-processor machines are well-priced for OS X-fearing power users.
Cons: Uses older specifications than previous G4s; superseded by G5.

All G4 Power Macs:
USB 1.1: 2 **PCI:** 4
FireWire 400: 2
System Bus: 167MHz
Ethernet: 10/100/1000BaseT
AirPort: 11Mbps

■ Entry-level:
Processors: 1 x 1.25GHz G4
Memory: 256MB DDR (Max: 2GB)
Disk: 80GB **Cache:** 1MB L3
Optical: DVD-ROM/CD-RW
Video card: 64MB ATI Radeon 9000 Pro
Price: £999
Star Rating: ★★★★/7.2

■ Mid-range:
Processors: 2 x 1.25GHz G4
Memory: 256MB DDR (Max: 2GB)
Disk: 80GB **Cache:** 2MB L3 per chip
Optical: DVD-ROM/CD-RW
Video card: 64MB ATI Radeon 9000 Pro
Price: £1,239
Star Rating: ★★★★/7.3

■ High-end:
Processors: 2 x 1.25GHz G4
Memory: 512MB DDR (Max: 2GB)
Disk: 80GB **Cache:** 2MB L3 per chip
Optical: DVD-R SuperDrive (4x)
Video card: 64MB ATI Radeon 9000 Pro
Price: £1,489
Star Rating: ★★★★/7.3

POWERBOOKS UPDATED 19/04/04

Its lightweight case and speedy processor make the **PowerBook G4** a genuine alternative to the desktop Power Mac. There are two compact 12.1-inch screen models, two 15.2-inch widescreen, and one large 17-inch widescreen. All now feature the lightweight anodized-aluminium case.

G4 processor speeds start at 1.33GHz – easily fast enough for pro applications, and the video cards boast 64MB of video RAM. Each size has a slot-loading DVD-R SuperDrive model. AirPort Extreme and Bluetooth built-in for all PowerBooks.

If you fancy the iBook for its compact size and light weight, but demand more power, the **12-inch** PowerBook is a great choice if you're frequently on the move. Digital video-out is via a mini-DVI port. Connect to an external Apple LCD display with a £75 DVI-to-ADC adaptor. It lacks fastest Gigabit Ethernet – although this won't bother many.

Mobile computers are all about compromise (size against performance and features), and the middle model will appeal to those who can take a little extra weight for the extra screen space. Now that the **15-inch** model is in the aluminium case, with AirPort Extreme and FireWire 800, it is the pick of the range.

The **17-inch** PowerBook boasts the largest laptop screen on earth, and will appeal to video or music pros, who regularly need to take their computers on the road. Size isn't really an issue when travelling, but frequent laptop luggers will be put off by its weight – although it's reasonable for such a large-screen laptop.

All models support dual-screen display using external monitors.
Pros: Lightweight, slim and stylish, there's a PowerBook G4 model for everyone: from compact to giant; USB 2.0 on all models; 1.5GHz 15-inch and 17-inch include backlit keyboard.
Cons: 12-inch has no FireWire 800; 17-inch shows its size by weight.

Both 12.1-inch PowerBooks:
Processor: 1.33GHz G4 **AirPort:** 54Mbps
Memory: 256MB (Max: 1.25GB)
Cache: 512K L2 **Hard disk:** 60GB
Video card: 64MB NVidia GeForceFX 5200
Resolution: 1,024-x-768 pixels
USB 2: 2 **FireWire 400:** 1 **Weight:** 2.1kg
Ethernet: 10/100BaseT **S-Video:** 1

■ DVD-ROM/CD-RW **Price:** £1,149
Star Rating: ★★★★/8.4

■ DVD-R SuperDrive (4x) **Price:** £1,299
Star Rating: ★★★★/8.6

Both 15.2-inch PowerBooks:
Cache: 512K L2 **Weight:** 2.49kg
Resolution: 1,280-x-854 **AirPort:** 54Mbps
USB 2.0: 2 **FireWire 400:** 1
PC Card: 1 **FireWire 800:** 1
Ethernet: 10/100/1000BaseT **S-Video:** 1
Video card: 64MB ATI Radeon 9700

■ DVD-ROM/CD-RW 15.2-inch:
Processor: 1.33GHz G4 **Hard disk:** 60GB
Memory: 256MB (Max: 2GB)
Price: £1,399 **Star Rating:** ★★★★★/9.0

■ DVD-R SuperDrive (4x) 15.2-inch:
Processor: 1.5GHz G4 **Hard disk:** 80GB
Memory: 512GB (Max: 2GB)
Price: £1,749
Star Rating: ★★★★★/9.1

■ DVD-R SuperDrive 17-inch:
Processor: 1.5GHz G4
AirPort: 54Mbps
Memory: 512MB (Max: 2GB) **PC Card:** 1
Cache: 512K L2 **Hard disk:** 80GB
USB 2: 2 **FireWire 400:** 1 **FireWire 800:** 1
Ethernet: 10/100/1000BaseT **S-Video:** 1
Video card: 64MB ATI Radeon 9700
Resolution: 1,440-x-900 pixels
Optical: DVD-R SuperDrive (4x)
Weight: 3.08kg
Price: £1,949
Star Rating: ★★★★★/9.0

UPDATED 18/11/03

The **Power Mac G5** is the spearhead of Apple's attack on the PC workstation market – packed with next-generation technologies, and running IBM's extremely powerful 64-bit G5 processor.

Its phenomenal power isn't just down to the processor. Performance bottlenecks are eliminated by an industry-best frontside bus running at up to 1GHz, and HyperTransport interconnects.

Hard drives are Serial ATA, supporting 1.5Gbps throughput per channel.

All this speed generates a lot of heat, and Apple has created a smart cooling system with up to nine fans and four thermal zones. As fans can slow down depending on the operation in progress, sound levels are reduced, making the Power Mac G5 much quieter than the G4. The addition of USB 2.0 ports means that the Power Mac G5 can support many peripherals previously pegged back at slower USB 1.1 speeds.

The top Power Macs feature two G5 chips – making it the perfect machine for multiprocessor-optimized applications such as Adobe Photoshop and Final Cut.

The ability to add up to 8GB of super-fast DDR RAM is another plus for OS X users – particularly for creative professionals.

As a pro system, it ships with Gigabit Ethernet for faster networking – although you'll have to upgrade your LAN's switches to get all the benefits.

The case is well designed for easy access and quick upgradability. It's even easier to fit RAM and drives than in the Power Mac G4 – you don't need any tools; everything slides and clicks into place with ease.

The Power Mac ships with the Apple iLife programs (iMovie, iTunes, iPhoto; and iDVD).
Pros: Super-fast; next-generation technologies; up to 8GB RAM; DVD-R SuperDrive; digital audio; quiet.
Cons: No good if you want to boot in Mac OS 9, but Classic works fine.

All G5 Power Macs: **USB 2.0:** 2 **FireWire 400:** 2 **FireWire 800:** 1 **AGP 8X Pro:** 1
Ethernet: 10/100/1000BaseT **AirPort:** 54Mbps

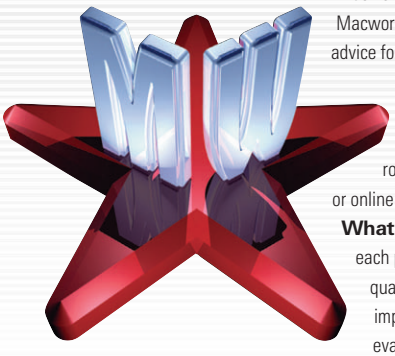
■ Entry-level:
Processors: 1 x 1.6GHz G5
Frontside Bus: 800MHz
Memory: 256MB DDR (Max: 4GB)
Hard disk: 80GB Serial ATA
Optical: DVD-R SuperDrive (4x)
PCI: 3 x 33MHz
Video card: 64MB GeForce FX 5200 Ultra
Price: £1,399
Star Rating: ★★★★/8.5

■ Mid-range:
Processors: 2 x 1.8GHz G5
Frontside Bus: 900MHz
Memory: 512MB DDR (Max: 8GB)
Hard disk: 160GB Serial ATA
Optical: DVD-R SuperDrive (4x)
PCI-X: 1 x 133MHz; 2 x 100MHz
Video card: 64MB GeForce FX 5200 Ultra
Price: £1,899
Star Rating: ★★★★★/9.0

■ High-end:
Processors: 2 x 2GHz G5
Frontside Bus: 1GHz
Memory: 512MB DDR (Max: 8GB)
Hard disk: 160GB Serial ATA
Optical: DVD-R SuperDrive (4x)
PCI-X: 1 x 133MHz; 2 x 100MHz
Video card: 64MB ATI Radeon 9600 Pro
Price: £2,299
Star Rating: ★★★★★/9.0

Macworld Star Ratings

Recommendations you can trust



Macworld's Star Ratings section lets you compare Macintosh products by providing summaries of Macworld's authoritative hardware product reviews from the past year. It includes detailed buying advice for each product category and a fuller description of our Editors' Choice winners. Alongside the list of Macworld Star Ratings are handy tips and further product buying advice.

Star Ratings for Mac systems are published in the Mac Systems Guide – see earlier. Subscribers can go to **www.macworld.co.uk** to explore our comparative feature round-ups and reviews for both software and hardware. Listings tell you which back-issue, or online archive, to search.

What the scores mean The number of stars indicates the product's level of quality; each product also gets a numeric score that provides a more exact assessment of the product's quality within that level. We evaluate seven factors to derive the star rating: feature set; design implementation; performance; reliability; ease of use; innovation; and value. We take these evaluations, weight their importance for each product class, and calculate the final score.

REAL PRODUCTS	REAL RATINGS		
★★★★★	9.0	to 10.0	Outstanding
★★★★	7.0	to 8.9	Very good
★★★	5.0	to 6.9	Good
★★	3.0	to 4.9	Flawed
★	0.0	to 2.9	Unacceptable

Macs are used in most recording studios because a Mac's PowerPC processor is more efficient than Intel chips running at the same speed, so it can handle extra channels and signal processing, or both simultaneously. Apple's **GarageBand** (part of the £39 **iLife** suite) is a great place to start for budding digital musicians. See Macworld July 2003 for professional solutions.

If you're still linking Macs with 10BaseT **Ethernet**, move to the faster 100BaseT, available on all current Macs. The latest Power Macs and PowerBooks come with 1000BaseT (Gigabit) Ethernet, which is even faster than 100BaseT.

Apple's **AirPort Extreme** is a fast wireless-networking technology. Add a £59 (2.0) or £79 (Extreme) card, and you can network and browse the Web cablelessly up to 150ft away from your £149 or £189 Base Station. AirPort works with all current Macs, and is now a viable alternative to wire-based networking. If you can, upgrade your Internet connection to **broadband**, via ADSL, cable or satellite. You'll need either an ADSL router (recommended) or a special modem. Add extra peripherals Macs with a **USB** or **FireWire hub**.

It's a snap to load digital photos into a Mac. With **iPhoto**, digital photography moves to an even higher level. **Resolution** of digital cameras is measured in horizontal and vertical pixels: 1,024-x-768, etc. High-resolution images show a greater level of detail – and can be more readily enlarged – than images with fewer pixels. Manufacturers also list resolution in terms of the total number of pixels. For example, 1,280 horizontal by 960 vertical pixels create a total of 1.2 million pixels (1,280-x-960 = 1.2 megapixels.

Any camera with an aggregate resolution of over 1 million pixels is referred to as a **megapixel** camera. If you plan to use images on the Web, you can get by

AUDIO / MUSIC

★★★★/7.0	**AV320**, Archos, *01264 366 022*, £560 (inc. VAT). Audio and video in your hand. Outputs to TV, but not too easy to use.	*Nov 2003*
★★★★/8.5	**E2c**, Shure, *020 8808 2222*, £76 (inc. VAT). Great sound, and secure-fit headphones, but a little pricey.	*April 2004*
★★★★/8.7	**E3c**, Shure, *020 8808 2222*, £149 (inc. VAT). Amazing sound, small headphones, and well worth every penny.	*April 2004*
★★★★/8.2	**E5c**, Shure, *020 8808 2222*, from £370 (inc. VAT). Beautifully presented in-ear phones – but buttock-clenchingly pricey.	*June 2004*
★★★★/8.7	**HD 280 Professional**, Sennheiser, *0800 652 5002* £99 (inc. VAT). Outstanding sound, fully enclosed headphones.	*April 2004*
★★★★/8.4	**HD 437**, Sennheiser, *0800 652 5002*, £19.95 (inc. VAT). Inexpensive headphones, great sound, but bulky.	*April 2004*
★★★/6.5	**In-ear headphones**, Apple, £35 (inc. VAT). Apple's own-brand earbuds still lack that quality feel and sound.	*April 2004*
★★★★/8.2	**inMotion**, Altech Lansing @ EuroTech, *0870 458 0011*, £109.95 (inc. VAT). Decent-quality Apple-style portable speakers.	*June 2004*
★★★★★/9.0	**iPod 20GB**, Apple, £299 (inc. VAT). Super-slim player holds 5,000 tunes, has solid-state controls, and dock.	*Nov 2003*
★★★★★/9.2	**iPod 40GB**, Apple, £399 (inc. VAT). Super-slim player holds 10,000 tunes, has solid-state controls, and dock.	*Nov 2003*
★★★★/8.5	**iPod mini**, Apple, £199 (inc. VAT). The brand-new 4GB MP3 player – complete with new case design.	*June 2004*
★★★★★/9.2	**Mbox for OS X**, Digidesign, *01753 653 322*, £379. Records, edits and mixes multiple tracks, but needs free USB port on Mac.	*March 2003*
★★★/6.7	**MX 500**, Sennheiser, *0800 652 5002*, £19.95 (inc. VAT). Inexpensive headphones with a volume control.	*April 2004*
★★★★★/9.0	**PowerWave**, Griffin @ AM Micro, *01392 426 473*, £99 (inc. VAT). Excellent-quality audio and includes software.	*March 2003*
★★★★/8.6	**PX 200**, Sennheiser, *0800 652 5002*, £40 (inc. VAT). Compact, excellent sound and good value headphones.	*April 2004*
★★★★/8.0	**TravelSound**, Creative, *uk.europe.creative.com*, £49 (inc. VAT). Stylish speakers with excellent sound – but distort when very loud.	*June 2004*
★★★/6.6	**Voice Recorder**, Belkin, *00800 2235 5460*, £39 (inc. VAT). Nifty microphone for dock-enabled iPods.	*Expo 2003*

CONNECTIVITY / NETWORKING

Servers, routers, software, remote access, SCSI cards, emulators, hubs, adaptors…

★★★★/8.8	**AMX-64**, ADSL Nation, *01865 761 114*, £99 (inc VAT). Affordable 4-port ADSL router that's easy to set-up.	*Expo 2002*
★★★★/8.5	**Cayman 3341**, Netopia, *020 8358 5858*, £99 (inc VAT). Affordable 2-port ADSL router that's easy to set-up.	*Sept 2003*
★★★★/8.8	**DG814**, Netgear, *020 7216 0014*, £95 (inc VAT). 4-port ADSL router that's easy to set-up.	*Expo 2002*
★★★★/7.6	**extendAIR Direct**, Dr Bott; Channel Dynamics, *0870 607 0540*, £139 (inc VAT). Antenna to extend AirPort's range.	*Jan 2004*
★★★★/8.5	**GSW-8**, Corega, *08705 168 626*, £115 (inc VAT). 8-port Gigabit Ethernet switch.	*Sept 2003*
★★★★/7.5	**SpeedTouch 510**, *01295 222 170*, £163 (inc VAT). Stylish and secure ADSL router, let down by hard-to-follow set up.	*Expo 2002*
★★★★/8.8	**SpeedTouch 330**, Alcatel, *01295 222 170*, £79 (inc VAT). Stylish, compact ADSL modem that's Mac OS X-friendly.	*Expo 2002*
★★★★/8.7	**StingRay**, Hermstedt, *020 8200 8282*, from £2,895 (ex VAT). Cheap to run, secure and easy-to-use file-transfer solution.	*Feb 2003*

DIGITAL CAMERAS / CAMCORDERS / VIDEO-CON

Consumer and professional; still and video; Apple's iPhoto. All prices include VAT.

Digital-still cameras

★★★★/8.1	**007 JB1**, Digital Dream, *01304 248 200*, £69. Zippo-sized 0.3-megapixel gadget-camera – basic quality, but tons of fun.	*Expo 2003*
★★★/6.7	**Camedia C-350**, Olympus, *0800 072 0070*, £249. Easy to use and traditionally styled 3.2-megapixel model.	*Aug 2003*
★★★/6.9	**C-740 Ultra Zoom**, Olympus, *020 7253 2772*, £299. 3.2-megapixel unit offering excellent images, but poor documentation.	*Dec 2003*
★★★★/7.0	**Caplio G4/Wide**, Ricoh, *01782 753 300*, £199. A 3.2-megapixel model offering fast shutter response and a great lens.	*Jan 2004*
★★★/6.7	**Cyber-shot DSC-V1**, Sony, *08705 111 999*, £546. Well-designed 5-megapixel model; delivers noisy shots, though.	*Dec 2003*
★★★/6.5	**Dimage Xt**, Minolta, *01908 200 400*, £249. Slimline 3.2-megapixel unit with easy-to-use movie mode.	*Dec 2003*
★★★★/8.7	**EOS 10D**, Canon, *08705 143 723*, Body-only, £1,499. Great digital SLR with well-balanced mix of features, comfort and quality.	*Oct 2003*
★★★★/8.6	**EOS 300D**, Canon, *08705 143 723*, £999. True SLR with removable lenses and low price, but no rear-mounted control-wheel.	*Expo 2003*
★★★★/8.6	**FinePix A303** Fujifilm, *020 7586 1477*, £449. SuperCCD offers an effective resolution of six megapixels.	*Sept 2003*
★★★★/7.8	**FinePix F410 Zoom** Fujifilm, *020 7586 1477*, £299. Decent 3-megapixel entry-level with 3x zoom.	*Sept 2003*
★★★★/8.5	**FinePix F601 Zoom** Fujifilm, *020 7586 1477*, £499. SuperCCD offers an effective resolution of six megapixels; funky look.	*Sept 2003*
★★★/6.6	**Lumix DMC-FZ1**, Panasonic, *08705 357 357*, £329. Stunningly fast 2-megapixel unit that unfortunately lacks full manual controls.	*Dec 2003*
★★★★/7.5	**Mju 300**, Olympus, *020 7253 2772*, £299. Responsive 3.2mp model with reliable picure quality, but a lack of manual controls.	*Jan 2004*
★★★★/8.5	**PowerShot A80**, Canon, *08705 143 723*, £349. Responsive 4-megapixel camera that boasts spanking image-quality.	*Expo 2003*

★★★★/8.0	**PowerShot S1 IS**, Canon, *08705 143 723*, £628. Compact/SLR hybrid that boasts neat image-stabilization features.	*June 2004*
★★★★/8.6	**Photosmart 735**, HP, *08705 47 47 47*, £179. A cheap-as-chips, no-nonsense 3.2-megapixel camera with 3x optical zoom.	*Nov 2003*
★★★★/8.2	**Revio KD-420Z**, Konica Minolta, *020 8751 6121*, £249. Blindingly fast and rugged 4-megapixel model with great image quality.	*Jan 2004*

Consumer digital camcorders

★★★★/8.0	**DM-MV5i,** Canon, *0800 616 8883*, £850. This camcorder has good specs, but is £50-£100 more than equally specced models.	*March 2003*
★★★★/8.5	**DM-MX2i,** Canon, *0800 616 8883*, £1,149. With optical stabilization, this camcorder delivers crisp pictures – at a price.	*March 2003*
★★★★/8.0	**DS60**, Panasonic, *08705 357 357*, £399. Low price, decent build quality, high performance, but awkward zoom and no stills.	*May 2004*
★★★★/7.0	**GRD23EK**, JVC, *0870 330 5000*, £399. 16x zoom, decent menus, low price, but marred by bottom-loading tape and no DV-In.	*May 2004*
★★★★/7.7	**GRD73EK**, JVC, *0870 330 5000*, £499. 16x zoom, DV-In/Out, low price. Fine for stills, but has no viewfinder tilt.	*May 2004*
★★★★/8.6	**iSight**, Apple, £119. Idiot-proof, portable webcam that ties in well with iChat AV.	*Sept 2003*
★★★★/8.7	**MVX10i,** Canon, *08705 143 723*, £399. Impressive picture performance with 18x zoom, but can't take stills.	*May 2004*
★★★★/7.9	**MV700,** Canon, *08705 143 723*, £1,099. Stills, easy tape-loading, DV-In/Out. Lacks manual focus ring; controls a little crowded.	*May 2004*
★★★★/8.6	**NV-GX7**, Panasonic, *0870 357 357*, £750. Excellent image quality, a stills mode and night shooting.	*March 2003*
★★★/6.8	**PC105E**, Sony, *020 7365 2947*, £699. 18x zoom lens, good menu system and excellent build – but too fiddly, and no stills function.	*May 2004*

FireWire webcams

★★★★/7.7	**Fire-i,** Unibrain; Channel Dynamics, *0870 607 0540*, £92. Great in low light, compact, but mediocre quality on colours and pictres.	*Jan 2004*
★★★★/7.7	**iBot Standard,** Orange Micro; Channel Dynamics, *0870 607 0540*, £88. Great picture quality, but bulky and poor software.	*Jan 2004*
★★★★/8.6	**iSight,** Apple, £119. Excellent picture quality; built-in mic; great design, but poor in low-light conditions. No additional software.	*Jan 2004*
★★★★/8.3	**Pyro 1394 WebCam,** ADS; Datavision UK, *01525 406 886*, £89. Great picture quality and software, but a little bulky.	*Jan 2004*

DISPLAY

Monitors, projectors and video cards.

17-inch flat-panel LCD displays

★★★★/8.8	**17-inch Studio Display**. Apple, *0800 039 1010*, £549 (inc VAT). Apple's 1,280-x-1,024-pixel screen is big as well as beautiful.	*July 2002*
★★★★/7.7	**C783,** Microtek, *01372 844 880*, £553. Good-value if-dull flat-panel offering built-in speakers.	*July 2002*
★★★★★/8.8	**Gallery 1740,** Formac, *020 8533 4040*, from £528 (inc VAT). Great-looking 17.4-inch 1,280-x-1,024-pixel ADC monitor.	*July 2002*
★★★★/7.7	**SyncMaster 171S**, Samsung, *0800 521 652*, £489. Compact, lightweight LCD screen that's nicely styled.	*July 2002*

18-inch flat-panel LCD displays

★★★★/7.7	**FlexScan L685-EX,** Eizo, *01483 719 500*, £1,089. Compact 18.1-inch 1,280-x-1,024-pixel LCD monitor.	*July 2002*
★★★★/8.6	**MultiSync LCD 1880SX,** NEC, *0801 201 160*, £959. Compact, attractive 18.1-inch 1,280-x-1,024-pixel LCD monitor.	*July 2002*
★★★★/8.6	**photon18blue**, LaCie, *020 7872 8000*, £899. 18-inch 1,280-x-1,024-pixel LCD screen boasting great image quality.	*July 2002*

19-22-inch flat-panel LCD displays

★★★★★/9.2	**Cinema Display HD**, Apple, *0800 039 1010*, £1,699 (inc VAT). **Editors' Choice: High-end flat-panel displays** Excellent high-definition 1,920-x-1,200-pixel screen that's suitable for use with high-end digital-video editing.	*March 2003*
★★★★★/9.0	**Cinema Display**, Apple, *0800 039 1010*, £1,009 (inc VAT). Apple's 20-inch screen has a 1,680-x-1,050 wide-screen resolution.	*March 2003*
★★★★/8.5	**FlexScan L767,** Eizo, *01483 719 500*, £734. Affordable 19-inch LCD that comes with a digital interface.	*June 2003*
★★★★/8.3	**FlexScan L985-EX,** Eizo, *01483 719 500*, £1,561. Monster 21-3-inch LCD that's pricey, but is of undeniable quality.	*June 2003*
★★★★/8.5	**MultiSync LCD1920NX,** NEC, *0801 201 160*, £750. A good-value 19-inch LCD that offers a digital interface.	*June 2003*
★★★★/8.3	**MultiSync LCD2080UX,** NEC, *0801 201 160*, £1,048. 20.1-inch LCD that's well-priced, and includes an auto-adjust feature.	*June 2003*
★★★★/8.7	**P922E,** CTX, *01923 810 800*, £545 (inc. VAT). Inexpensive 19-inch LCD with USB 2.0 hub.	*Oct 2003*
★★★★/8.6	**Photon20Vision**, LaCie, *020 7872 8000*, £1,404. Quality 20.1-inch flat panel with calibration option, desk clamp and hood.	*June 2003*
★★★★/8.7	**S962A LCD Monitor,** CTX, *01923 810 800*, £492 (inc VAT). Affordable 19-inch flat-panel display.	*Jan 2004*

21-inch+ CRT displays

★★★★/8.0	**Diamond Pro 2070SB,** Mitsubishi, *020 7202 6300*, £485. Top features at a great price. It can display at 2,048-x-1,536-pixels at 85Hz.	*April 2004*
★★★★/8.4	**electron22blue IV**, LaCie, *020 7872 8000*, £549. If you can't stretch to a Barco screen, this offers amazing quality and value.	*April 2004*
★★★★/7.0	**FlexScan T966,** Eizo, *01483 719 500*, £659. 21-inch aperture-grille at a reasonable price.	*Jan 2003*
★★★★/7.9	**Multiscan F520,** Sony, *08705 111 999*, £769. This is a high-quality monitor, but you pay extra for the Sony brandname.	*April 2004*
★★★★/7.1	**P225f,** Viewsonic, *01293 643 900*, £399. Inexpensive and low on features, but it's a still 22-inch CRT display for under £400!	*April 2004*
★★★★/8.3	**Reference Calibrator V,** Barco@Typemaker, *0221 604 1234*, £3,250. Pricey, but colour-accurate display is losing edge on rivals.	*April 2004*
★★★★/8.3	**SM1200NF**, Samsung, *0800 521 652*, £489. The screen looks dated, but it's feature rich with a decent resolution.	*Jan 2003*
★★★★/7.7	**VisionMaster Pro 513,** Iiyama, *01438 745 482*, £369. A great choice if you want cheap and cheerful.	*Jan 2003*

Projectors

★★★★/7.6	**LiteShow**, InFocus, *0800 028 6470*, £349. AirPort connection to the LP120 projector.	*Dec 2003*
★★★★★/9.1	**LP120**, InFocus, *0800 028 6470*, £1,999. Tiny, fully featured 1,100 ANSI lumen projector – the best there is.	*Dec 2003*

Display/TV hardware

★★★★/8.5	**Alchemy TV**, Miglia @ AM Micro, *01392 426 473*. TV tuner that can transfer VHS tapes to a Mac.	*Jan 2004*
★★★★/8.0	**CinemaLift**, LCDArms, *www.lcdarms.com*, £175. Well-designed flexible arm for raising a Cinema Display up to eye level.	*Jan 2004*
★★★★/8.7	**EyeTV 400**, El Gato @ CU, *020 8358 5857*, £249. Easy-to-set-up method of watching television on your Mac.	*May 2004*
★★★★/8.8	**EyeHome**, El Gato @ CU, *020 8358 5857*, £199. Digital-media player to work with EyeTV. Keeps all media in one place.	*May 2004*
★★★★/8.2	**Graphire3 Studio XL**, Wacom, *Computers Unlimited, 020 8358 5858*, £179. A5 tablet with stylus and scroll-wheel mouse.	*Dec 2003*

INPUT

Mice, trackballs, digital tablets… All prices include VAT.

★★★/6.9	**Harmony Remote SST-768**, Harmony, *Invision UK, 01449 677 233*, £200. Expensive programmable USB remote control.	*April 2004*
★★★★/8.4	**Memory Optical Mini**, IO Gear, *Disruptive, 01494 522 721*, £47. Small laptop mouse with 32MB of built-in storage.	*May 2004*
★★★★/8.6	**Nostromo n52 SpeedPad**, Belkin, *00800 223 5546*, £29.99. Convenient one-handed controller for gaming.	*May 2004*
★★★★★/9.0	**The Mouse**, MacMice, *AM Micro, 01392 426 743*, £34. What the Apple mouse could've been. Two buttons, scroll wheel.	*May 2004*

with a low-res camera. If you want to use the images in print at anything greater than postage-stamp size, at least a two-megapixel camera is a must. Look for optical resolution; ignore interpolated resolution.

Select a camera that offers the option of switching between high-res/fewer shots and lower-res/many shots. SmartMedia **storage** cards are cheaper but flimsier, and offer less storage than CompactFlash cards. Sony cameras use MemorySticks. Other formats include SecureDigital, Multimedia, and the tiny XD Picture card. Digital cameras tend to be **battery** hogs, so rechargeable batteries are a must. NiCad batteries are cheaper than NiMH batteries, but the latter last longer between charges.

Those who don't own a **digital-video camcorder** are missing out on one of the best reasons to own a Mac. All of Apple's Mac models, even the least-expensive iMac, have built-in FireWire ports and iMovie software, making the creation of professional-looking videos for business, home, and school projects very easy.

Most camcorders use MiniDV tapes, tiny cassettes that store 60 minutes of high-quality digital video in standard-play mode or 90 minutes in long-play mode. Sony's MicroMV digital-video format is not yet supported. Once you record video, you can upload it to a Mac via a **FireWire** cable and edit it using either Apple's **iMovie** or a higher-end program such as Apple's **Final Cut Pro/Express**. Add effects with **Adobe After Effects**.

The DV format stores video at more than twice the resolution of standard VHS or 8mm tapes, and it stores 25 per cent more information than S-VHS or Hi8 tapes. Colour fidelity and noise immunity are also markedly better on DV tapes than on analogue tapes, resulting in breathtaking video quality. And because the recorded video is digital, you can upload it to your Mac or copy it to another DV tape without any loss of quality.

Aim for a FireWire digital camcorder with both **DV-In** and **-Out**, as this means you can transfer your edited movie from your Mac back to MiniDV tape. This doesn't matter if you plan to export to DVD.

The first decision you'll need to make is whether to get a flat-panel display, based on liquid crystal display (**LCD**) technology, or a cathode-ray tube (**CRT**) monitor.

CRTs are cheaper and offer higher colour vibrancy and accuracy than LCDs. If low price is your biggest requirement, or if you're looking for a display for publishing or design work, go with a CRT.

An LCD display's advantage is unparalleled sharpness and ultra-thin profile. If space considerations, or a cutting-edge look, top your list of concerns, and you can afford it, today's flat-panel displays are worth a serious look. With a flicker-free screen and tiny footprint, an LCD is easy on the eyes in more than one sense.

Today's monitors offer one or more of the following connections: VGA, DVI, or ADC. A screen hooked-up to a digital DVI or ADC connector offers sharper, clearer images than those connected via an analogue VGA connector. Analogue LCDs can display "noise", a by-product of converting the video signal from digital to analogue and then back again. The ADC (Apple Display Connector) port combines a DVI signal with power and USB. The single cable leaves your desk relatively clutter free, but ADC is available only on cards shipping in Power Mac G4s and Cubes released after August 2000.

Except for the Apple displays, most monitors can plug directly into an analogue VGA connector, making them compatible with current and older desktops and laptops. Some models offer both analogue and digital inputs. These are the most compatible, as they can plug

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continued from page 219

into DVI or standard VGA connectors and, with a third-party adaptor, into ADC ports. The Apple displays require the ADC port available on only recent G4 and G5 desktops.

When comparing the image size of displays, be sure to check the **viewable image size**, not the claimed size of the CRT or flat-panel. The **resolution** of a monitor is expressed in horizontal and vertical pixel dimensions, and range from 640-x-480 pixels to 1,600-x-1,200 pixels and beyond. The higher the resolution, the more you will be able to see on-screen. The more inches, the larger the pixels.

A CRT's **dot pitch** measures how close adjacent phosphor dots (or stripes on aperture-grille CRTs) are to each other. In general, the smaller the dot pitch, the sharper (and more expensive) the display will be.

On CRT monitors, a low **refresh rate** – how many times your Mac sends a fresh copy of the screen image to your display – implies flicker, a major cause of eyestrain. The higher the refresh rate, the better. LCDs don't suffer from flicker at all.

High-end monitors may also come with **calibration** software and devices for ensuring accurate colour for publishing and design applications.

Input devices come in many shapes and sizes. Go for an **optical mouse**, which are less prone to wear-&-tear than the old-style mice. Apple's mouse is good, but lacks extra buttons and a scroll wheel – fantastic for zipping through documents and Web pages.

Graphics tablets are now very advanced and often come with pressure-sensitive pens, which enable more control when using natural-media graphics software like Painter. The harder you press, the thicker the line. They take some getting used to, but many artists swear by them – not at their mice!

The range of printers available is huge: fast network printers, for business, to slower-but-cheap colour printers for home.

Decide what you need from your printer, look at your budget and, most importantly, look at the **output** of the printer. The only way to avoid disappointment is to have a dealer print out a page in front of you. Remember that the test prints shown in shops are often done on expensive glossy paper.

Speed is also an issue. At home, waiting 15 minutes for a colour page to print may be acceptable. In the office, however, time is money – meaning that faster printers are needed.

Home/small office use: A4 Inkjets are the cheapest printers to buy, and can output near-photographic quality prints – great with digital cameras. If you mainly run-out black-&-white prints of letters and so forth, consider a mono laser printer (which cost from around £250).

Business use: Fast, networkable mono lasers cost from £500. Decent colour lasers will set you back at least £1,000. Design studios should consider a colour proofer – available from HP and Epson.

Multifunction devices: Companies such as HP and Lexmark offer all-in-one devices that include a printer, scanner, copier and fax. These save desk space, but aren't the best alternative at each of their functions.

Remember to find out the price of **consumables**. An inkjet can get through a cartridge in just a few months. Macworld tests for how many high-colour pages you'll get out of a cartridge, so check our product round-ups.

★★★★/8.4	**USB Optical Mini**, IO Gear, *Disruptive, 01494 522 721*, £23. Small, no-frills laptop mouse.	*May 2004*
★★★★/7.3	**Wireless Keyboard**, Apple, *0800 039 1010*, £59. Bluetooth keyboard complete with 128-bit encryption.	*Dec 2003*
★★★★/8.8	**Wireless Intellimouse Explorer 2.0**, Microsoft, *0870 207 7377*, £55. Five-button, side-scrolling optical mouse.	*Jan 2004*
★★★/6.5	**Wireless Mouse**, Apple, *0800 039 1010*, £59. Bluetooth mouse. Lacks a scroll-wheel.	*Dec 2003*
★★★★/8.8	**Wireless Optical Desktop Elite Executive Edition**, Microsoft, *0870 207 7377*, from £99. All-singing, all-dancing keyboard.	*Jan 2004*
★★★★/8.2	**Wireless Optical Mini**, IO Gear, *Disruptive, 01494 522 721*, £47. Small wireless laptop mouse.	*May 2004*
★★★★/8.9	**Wireless Optical Mouse 2.0**, Microsoft, *0870 207 7377*, £39. Super-smooth scrolling; scrolls sideways; three-buttons.	*Jan 2004*

PDAs

Personal digital assistants and related third-party hardware and software.

★★★★/7.5	**Tungsten E**, Palm, *0118 927 8700*, £149. Affordable, no-frills PDA with SD-card slot	*Expo 2003*
★★★★/8.7	**Tungsten T3**, Palm, *0118 927 8700*, £329. Bluetooth-compatible PDA with big screen and multimedia capabilities.	*Expo 2003*
★★★★/8.0	**Zire**, Palm, *0118 927 8700*, £88. Inexpensive PDA with rechargeable batteries.	*May 2003*

PRINTING

Inkjets, lasers, workgroup, thermal wax, dye sublimation, solid ink and software solutions.

All-in-one printer, scanner, copiers *(All prices include VAT).*

★★★★/8.9	**PSC 1205**, Hewlett-Packard, *08705 474 747*, £99. Compact, affordable, relatively fast all-in-one offers good quality photos.	*Sept 2003*
★★★★★/9.1	**PSC 2510**, Hewlett-Packard, *08705 474 747*, £349. The ultimate all-in-one – fast and great quality, and won't break the bank.	*June 2004*
★★★★/7.4	**x1150**, Lexmark, *0870 444 0044*, £79. Affordable, good-looking but very slow all-in-one.	*Sept 2003*
★★★★/8.2	**x5150**, Lexmark, *0870 444 0044*, £129. Affordable, good-looking but slow all-in-one.	*Sept 2003*

Consumer/entry-level pro *(All prices include VAT).*

★★★★/8.3	**DeskJet 5150**, HP, *08705 474 747*, £89. A4 inkjet that excels at colour photos; optional six-colour cartridge.	*Nov 2003*
★★★★/8.9	**i450**, Canon, *08705 143 723*, £99. Low-price colour A4 inkjet that outputs great quality for the price.	*Sept 2003*
★★★★/8.6	**i470D**, Canon, *08705 143 723*, £179. A4 inkjet that outputs great quality, and includes memory-card reader.	*Sept 2003*
★★★★/8.9	**i6500**, Canon, *08705 143 723*, £339. Great A3+ photographic output, very fast and quiet.	*Sept 2003*
★★★★/8.6	**i905D**, Canon, *08705 143 723*, £250. A4 photo-printer. Relatively speedy and prints on CDs, but colour profiles need improving.	*March 2004*
★★★★/8.4	**i965D**, Canon, *08705 143 723*, £250. As i905D but much faster. Lacks the i905's computerless printing capabilities.	*March 2004*
★★★★/8.9	**i990**, Canon, *08705 143 723*, £299. Near-perfect quality, lightning-fast A4 inkjet printer – worth every penny.	*April 2004*
★★★/6.6	**P-440**, Olympus, *020 7253 2772*, £399. Expensive A4 inkjet. Speedy, but print-quality and colour-matching are lacklustre.	*March 2004*
★★★★/8.5	**P-Touch**, Brother, *0845 606 0626*, £399. Thermal-transfer label printer. Fast, clean, huge media choice, but pricey.	*May 2004*
★★★★/8.3	**Photosmart 7960**, HP, *08705 474 474*, £249. A4 inkjet. Decent colour reproduction, but expensive and rather slow.	*March 2004*
★★★★★/9.0	**Stylus C42UX**, Epson, *0800 200 546*, £59. Slow, but offers spectacular colour quality for the price.	*Oct 2002*
★★★★/7.7	**Stylus C80**, Epson, *0800 200 546*, £149. Entry-level 2,800dpi model that uses pigment inks for better output on plain paper.	*Oct 2002*
★★★★/8.9	**Stylus Photo 830U**, Epson, *0800 200 546*, £99. A photo printer for £99 is a great deal – especially when output is outstanding.	*July 2003*
★★★★/8.1	**Stylus Photo 925**, Epson, *0800 200 546*, £249. Doesn't need a computer to print from memory cards.	*Jan 2003*
★★★★/8.6	**Stylus Photo 935**, Epson, *0800 200 546*, £229. Top-quality output, six-colour inks, standalone printing.	*Sept 2003*
★★★★/8.9	**Stylus Photo R300**, Epson, *0800 200 546*, £129. Six-colour A4 inkjet. Computerless prints, great colour. Detail could be better.	*March 2004*
★★★★/7.4	**Stylus Pro 4000**, Epson, *0800 200 546*, £1,495. Eight-colour inkjet proofer with colour-management issues.	*May 2004*
★★★/5.5	**Z705**, Lexmark, *0870 444 0044*, £59. Affordable A4 inkjet that sadly lacks in speed and output-quality.	*March 2004*
★★★★/8.2	**z705 Photo JetPrinter**, Lexmark, *0870 444 0044*, £59. Affordable but very slow.	*Sept 2003*

Professional *(All prices exclude VAT)*

A3 colour lasers

★★★★/7.1	**AcuLaser C8600PS**, Epson, *0800 200 546*, £3,879. Slow yet high-quality graphics-oriented A3+ colour laser.	*May 2003*
★★★★/8.8	**Elite Color 16**, GCC, *020 8380 6870*, £1,399. Bargain-priced, duplexing high-quality colour laser printer.	*Expo 2003*
★★★★/8.7	**C752n**, Lexmark, *0870 444 0044*, £1,879. A4 colour laser that offers decent-quality prints at a fair speed.	*Expo 2003*
★★★★/8.7	**C9500**, Oki, *0800 917 6015*, £4,869. Super-fast A3 laser ideal for the most demanding office environment.	*May 2003*
★★★★★/9.1	**CL30**, Xanté, *0870 742 0802*, £4,249. Feature-laden graphics A3 laser printer that is both speedy and well-priced.	*May 2003*
★★★★★/9.0	**PlateMaker 4**, Xanté, *0870 742 0802*, £4,499. Complex, quality mono laser printer for producing computer-to-plate plates.	*July 2003*
★★★★★/90	**Phaser 6250n**, Xerox, *0870 241 3245*, £1,609. Fast, affordable colour laser printer that offers excellent quality	*Expo 2003*
★★★★/8.4	**Phaser 7700**, Xerox, *0870 241 3245*, £5,520. Speedy, well-priced graphics A3 laser.	*May 2003*

A4 colour lasers

★★★★/8.1	**AcuLaser C1900PS**, Epson, *0800 200 546*, £1,029. Multi-pass model that does well on speed, quality and price.	*May 2003*
★★★★/8.0	**AcuLaser C4000PS**, Epson, *0800 200 546*, £1,749. Single-pass laser that offer great output, but at a high price.	*May 2003*
★★★★/8.5	**CL30 HSE**, LXanté, *0870 742 0802*, from £5,999. Speedy, great-quality unit updated for heavy card stock.	*June 2004*
★★★★/7.7	**HL-4000CN**, Brother, *0845 606 0626*, £1,780. Competitively priced single-pass model.	*May 2003*
★★★★/8.1	**HP 2500**, HP, *08705 474 747*, £829. Affordable, if slow, multi-pass A4 that offers decent output.	*May 2003*
★★★★/7.3	**HP 4600**, HP, *08705 474 747*, £1,599. Reasonably priced single-pass A4 model.	*May 2003*
★★★★/8.0	**Magicolor 2350**, Minolta-QMS, *01784 442 255*, £849. High quality at a superb price, but rather slow.	*May 2003*
★★★★/7.3	**Magicolor 3100**, Minolta-QMS, *01784 442 255*, £1,795. A slightly overpriced single-pass laser printer that offers quality output.	*May 2003*
★★★★/8.0	**C5300n**, Oki, *0800 917 6015*, £1,069. Well-priced single-pass A4 laser that's both speedy and of high quality.	*May 2003*
★★★★/8.0	**C7500n**, Oki, *0800 917 6015*, £2,919. Speedy, feature-rich single-pass A4 laser.	*May 2003*
★★★★/7.7	**Phaser 6200n**, Xerox, *0870 241 3245*, £2,010. Speedy, if expensive, single-pass A4 printer.	*May 2003*
★★★★/7.7	**Phaser 8200**, Xerox, *0870 241 3245*, £1,610. Solid-ink single-pass A4 laser offers good quality and is also well-priced.	*May 2003*
★★★★/8.6	**T-shirt Printer**, Xanté, *0870 742 0802*, £6,999. Modified unit for printing colour-fast t-shirt images.	*June 2004*

SCANNING

Consumer and professional scanners

Consumer/entry-level *(Prices include VAT. All models USB)*

★★★★/8.2	**CanoScan D2400UF**, Canon, *08705 143 723*, £219. 2,400dpi A4 scanner offering transparency adaptor.	*Nov 2002*
★★★★/8.0/8.1	**CanoScan LiDE 20 / 30**, Canon, *08705 143 723*, £59; £79. Ultra-thin entry-level 600dpi and 1,200dpi A4 scanners.	*Nov 2002*
★★★★/8.6	**IRISPen II Executive**, IRIS,@ Softline *01883 745 111*, £129. Cheap, accurate pen scanner that works with any application.	*May 2003*
★★★★/8.1	**Perfection 1260**, Epson, *0800 220 546*, £79. Basic 1,200dpi A4 scanner offering optional £45 transparency adaptor.	*Nov 2002*
★★★★/8.0	**Perfection 1660 Photo**, Epson, *0800 220 546*, £169. 1,600dpi A4 scanner offering a decent software bundle.	*Nov 2002*
★★★★/8.6	**Perfection 2400 Photo**, Epson, *0800 220 546*, £199. Capable 2,400dpi A4 scanner with built-in transparency adaptor.	*Nov 2002*
★★★★/8.6	**ScanJet 4670**, HP, *0870 547 4747*, £179. Innovative design; scans slides; easy storage, but cools looks mean a higher price.	*Jan 2004*
★★★★/7.0	**ScanJet 8200**, HP, *0870 547 4747*, £449. 4,800dpi resolution; transparency adaptor; USB 2.0. Overpriced.	*Nov 2003*
★★★/6.8	**ScanJet 8250**, HP, *0870 547 4747*, £749. 4,800dpi resolution; transparency adaptor; USB 2.0; document feeder. Expensive.	*Nov 2003*

Professional

★★★★/7.2	**ArtixScan 1100**, Microtek, *01327 844 880*, £1,408. Overpriced SCSI-2, 1,000dpi, 42-bit A4 scanner.	*Expo 2002*
★★★★★/9.0	**ArtixScan 1800f**, Microtek, *01327 844 880*, £1,799. 1,800-x-3,600dpi A4 flatbed giving unbeatable scan quality .	*July 2003*
★★★★/8.3	**Expression 1680 Pro**, Epson, *0800 220 546*, £895. Quality USB/SCSI 1,600-x-3,200dpi, 48-bit A4 scanner, but lacking FireWire.	*Expo 2002*
★★★★/7.9	**Expression 1640XL Pro**, Epson, *0800 220 546*, £2,219. SCSI/USB 1,600-x-1,300dpi, 42-bit A3 model that lacks FireWire.	*Expo 2002*
★★★★/8.9	**PowerLook 1120**, Umax, *0870 906 4400*, £849. FireWire 1,200-x-2,400dpi, 42-bit A4 scanner offers great balance of features.	*Expo 2002*
★★★★/7.8	**PowerLook 2100XL**, Umax, *0870 906 4400*, £999. SCSI-2, 42-bit A3 scanner offers modest resolution of 800-x-1,600dpi.	*Expo 2002*
★★★★/7.0	**ScanJet 8290**, HP, *0870 547 4747*, £1,449. 4,800dpi; transparency adaptor; 25ppm document feeder; software is Windows-only.	*Nov 2003*
★★★★/8.8	**ScanMaker 9800XL** Microtek, *01327 844 880*, £1,748. FireWire/SCSI-2/USB 2.0, 1,600-x-1,300dpi, 48-bit A3 scanner.	

Film scanners *(All prices include VAT)*

★★★★/7.8	**SmartScan 2700**, SmartDisk, *01252 530 960*, £189. Easy to use, inexpensive 2,700-pixel USB film scanner.	*July 2003*
★★★/6.7	**SmartScan 3600**, SmartDisk, *01252 530 960*, £189. 3,600-pixel FireWire film scanner that suffers from limited dynamic range.	*July 2003*
★★★★/8.0	**Dimage Scan Dual III**, Minolta, *01908 200 400*, £299. 2,820dpi Film scanner offering excellent dynamic range and colour fidelity.	*July 2003*
★★★★/8.5	**Dimage Scan Elite II**, Minolta, *01908 200 400*, £549. 2,820dpi FireWire film scanner with Digital ICE and GEM technologies.	*July 2003*

If you need to get printed images into your Mac, but you don't have a digital camera or want to put your old photos on the Web, you need a scanner. Before buying a scanner you must consider the final output you're aiming for. If your job is for a glossy magazine, then a high-resolution drum scanner is what you need.

It's more likely, though, that that kind of scanning would be done by a pre-press house or a bureau. Some **high-end** flatbed scanners are actually approaching drum-scanner quality. Some professional scanners require a SCSI interface, so new Macs will require that a SCSI card be added. However, manufacturers are now adding FireWire and USB 2.0 interfaces to their top scanners.

You can buy a dedicated **slide scanner** or attach an optional slide tray to your flatbed. Some scanners have neat internal trays for ease of use.

If your needs are less great, there are many fair-quality **low-end** scanners at unbelievably cheap prices. Again, claims for quality are often based on resolution. Look at the optical resolution rather than the interpolated resolution, as interpolation is just a process of digitally enlarging the scan. Make sure that the connection (USB, SCSI or FireWire) is right for your Mac. Scanners often come with bundled software to let you manipulate the images once you have scanned them.

STORAGE & UPGRADES

Hard drives, CD, DVD, removable solutions, servers, and processor-upgrade cards

Servers

★★★★/8.0	**Xserve**, Apple, from £2,399 including VAT. Apple's easy-to-manage enterprise server is well-placed to compete with PC solutions.	*Oct 2003*

Network Attached Storage

★★★★/8.5	**Max**, CMS, *01256 681 246*, from £1,999. Fast and robust storage that's easy to use.	*Jan 2003*

Hard drives

★★★★/8.2	**ABSplus**, CMS, *01256 681 246*, from £209. Portable FireWire backup solution.	*Jan 2003*
★★★★/8.8	**Big Disk 800**, LaCie, *020 7872 8000*, from £559. High-capacity FireWire 800 hard drives: 400GB (7,200rpm), 500GB (5,400rpm).	*Aug 2003*
★★★★/8.5	**Caviar WD2000**, Western Digital, @ Dabs, *www.westerndigital.com*, £201. Cheap, huge 200GB EIDE drive.	*June 2003*
★★★★/8.4	**Cobra 800**, EZQuest @ Channel Dynamics, *0870 60 70 540*, from £245. 7,200rpm FireWire 800 hard drive: 120/200/250GB.	*Aug 2003*
★★★★/8.5	**Crossfire 120GB**, SmartDisk, *01252 530 960*, from £153. FireWire/USB 2.0 hard drive. Compact, good software, but not too speedy.	*Expo 2003*
★★★★/8.3	**Desktop Hard Drive**, SmartDisk, *01252 530 960*, from £139. 7,200rpm FireWire hard drive: 80/120GB.	*April 2003*
★★★★/8.3	**Fire800**, WiebeTech @ Technical Earth, *020 8450 0303*, from £249. Reasonably priced 120/180/240GB. FireWire 800 drives.	*Aug 2003*
★★★★/8.5	**HDD 250**, Iomega, *www.iomega.co.uk*, £309. Fast 250GB FireWire hard-drive. Slow with USB 2.0, though.	*Expo 2003*
★★★★/8.8	**Ice Warrior 800**, Box Clever, *01525 240 188*, from £199. Affordable 120/200/250GB FireWire 800 hard drives.	*Aug 2003*
★★★★/8.3	**Media Bank HS-R**, Miglia, *0870 747 2988*, from £299. Dual hard-drive RAID array. FireWire 800 interface.	*March 2004*
★★★★/8.6	**One Touch 250**, Maxtor, *01923 712 448*, £329. Attractive FireWire-only hard drive with decent software bundle.	*Expo 2003*
★★★★/8.0	**PowerPlay Pro**, SmartDisk, *01252 530 960*, from £59. Handy collar-clip-sized 64MB USB storage and music player.	*July 2003*
★★★★/8.4	**Rover**, SmartDisk, *01252 530 960*, £59. Radio-controlled USB slide-show remote-control with 32MB of storage	*July 2003*
★★★★/8.5	**The Kube 500GB**, Box Clever @ Mac & More, *01525 240 188*, from £599. 5,400rpm FireWire RAID hard drive. Also 400/240GB.	*May 2003*
★★★★/8.0	**Xserve RAID**, Apple, £8,999 including VAT. Impressive 2.52TB server-storage solution.	*Oct 2003*

External CD/DVD drives (all inc. VAT).

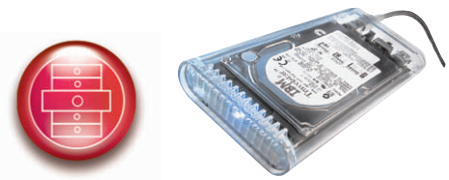
★★★★/8.5	**DSR Tower**, Microboards Technology, *0845 230 7800*, Mass DVD duplication. Fast, easy to use, but can't copy encrypted DVDs.	*April 2004*
★★★★/7.7	**Boa FireWire DVD-RW**, EZQuest @ Channel Dynamics, *0870 607 0540*, £317. DVD-R that offers solid performance.	*May 2003*
★★★★/8.6	**d2 FireWire DVD-Rewritable Drive**, LaCie, *020 7872 8000*, £304. Includes CaptyDVD 1 Mac DVD-authoring software.	*May 2003*
★★★★/8.6	**Devideon**, Formac, *020 8533 2489*, £304. DVD-R that includes Devideon 2 Mac DVD-authoring software.	*May 2003*
★★★★/8.2	**DVD±RW 8x4x24x**, LaCie, *020 7872 8000*, £142. Fast burning for data discs, but won't work with iMovie, iDVD, or DVD movies.	*May 2004*

Card readers (all inc. VAT).

★★★★/7.9	**Media Reader**, Belkin, *00800 2235 5460*, £89 (inc. VAT). Multi-format storage-card reader for dock-equipped iPods.	*Expo 2003*

Upgrade cards (all inc. VAT).

★★★/6.9	**PowerForce G4 ZIF 550/220**, PowerLogix, *www.powerlogix.com (see Int'l)*, £259. For beige G3, blue-&-white G3, pre-AGP G4	*March 2003*
★★★/6.8	**PowerForce G4 Series 100 1GHz**, PowerLogix, *www.powerlogix.com (see Int'l)*, £630. AGP and Gb Ethernet PMG4s, Cube	*March 2003*
★★★/6.6	**PowerForce Dual G4 800MHz**, PowerLogix, *www.powerlogix.com (see Int'l)*, £690. AGP and Gb Ethernet PMG4.	*March 2003*
★★★/6.5	**PowerForce Dual G4 1GHz**, PowerLogix, *www.powerlogix.com (see Int'l)*, £1,030. AGP and Gb Ethernet PMG4.	*March 2003*
★★★★/7.5	**Encore/ZIF G4 500**, Sonnet, *www.sonettech.com (see Int'l)*, £259. Beige G3, blue-&-white G3, Pre-AGP G4.	*March 2003*



Hard drives: It's easy to add extra internal hard disks to Power Macs, but other Macs are better served with external drives. All new Macs come with FireWire connections, which are much faster than USB.
You can buy portable FireWire hard drives that you can carry around with you, and also larger, faster drives that sit on the desktop. Buy FireWire 800 drives if your Mac has this super-fast port. Go for the fastest rotational disk speed (measured in rpm), and divide the price by the number of gigabytes to find the price per GB. Buy as big as you can now, to save having to buy again later.
Removable disks: Apple has turned its back on the now defunct 1.4MB **floppy** (what do you think email is for?) but you can still add a USB floppy drive for about £60.

Zip drives are still used for backup. The 250MB Zip supports original 100MB disks, and the 750MB model reads and writes 750MB and 250MB disks, and reads all 100MB disks. Despite the convenience of the format, it 's relatively expensive and less popular now that most Macs have some kind of optical storage as standard.

Subscribers to Apple's .Mac services (£65 per year) get 100MB of **iDisk** Web storage space, which can be used to quickly move data around the world.

CD/DVD: Optical storage technologies (**CD-R**, **CD-RW**, **DVD-R** and **DVD-RAM**) have become increasingly viable alternatives as prices fall dramatically. While stable and cheap – a blank 650MB CD-R sells for 45p – writing to a CD or DVD-RAM can be slow. CD-R is a write-once technology. But, unlike Jaz and Zip disks, dishing out CDs to friends or clients isn't financially painful. Your best CD choice may be a CD-RW (rewriteable) drive, which is a CD-R drive with the added ability to handle rewriteable media.

DVDs can hold 5.2GB of data, and the drives can read standard CDs. Watch movies on your Mac and play the latest multimedia DVDs. SuperDrive Macs can record DVDs that will play in domestic players. Apple's **iDVD** tool makes Macs so much better than Windows PCs in this regard. **MW**

Andy Ihnatko

Prepare yourself for a lifetime of stupification, as Apple keeps innovating with its latest Mac OS versions.

Inveteracy of dunces

'With Panther we were confronted with a completely revamped Finder interface that – like a college roommate you despise the moment you meet – you just have to learn how to live with.'

Mac OS X is a testament to the power of idiocy, the permanency of idiocy, and idiocy's status as the ultimate durable commodity. If my experience with Mac OS X 10.0, 10.1, Jaguar and now Panther has served to underscore anything, it's that a million years from now there will be only three things left on Earth: cockroaches, Starbucks franchises, and idiocy. Lacking human hosts, the idiocy will exist as free-roaming clouds of purplish dust that twist along the ground and occasionally convince the roaches that £2.70 is a perfectly reasonable price for a medium-sized cup of coffee.

I've been a Mac user since 1985. Somewhere in The Ihnatko Archives I have single-sided, single-density 3.5-inch MFS-formatted disks containing documents created with MacWrite one-point-something, bearing labels designed on MacPaint, and printed on an ImageWriter. Go ahead: ask me why your Mac Plus can't see the megabyte of RAM you just installed. I'll tell you to open 'er up again and clip a resistor on the motherboard.

Suffice to say that I am a man with a certain amount of smug expertise where Macs are concerned. And then Mac OS X 10.0 was released, and it turned out that I'd wasted the previous 13 years of my life.

Practically nothing I'd learned about the Mac counted any more. Find a guy who'd spent every day of his life scorning, mocking, belittling, dillying and otherwise making it clear that a Macintosh might as well have a hand-crank on the side of it and that he was going to continue using a real computer, thank you very much. I, who had been using Macs since I was a kid; I, who published his first piece of Mac software in 1988; I, who while never actually getting a Mac tattoo once fell asleep on top of my Newton MessagePad and left an Apple-shaped welt on my cheek that lasted well into breakfast; I, who has flown the flag, drunk the Kool-Aid, who bleeds in all the colours of the original Apple logo and in their correct order from top to bottom; I now knew as little about the Mac operating system as that boorish, ill-mannered, stinky, people-only-pretend-to-love-him-just-so-they-can-exploit-him, lout.

I think he was also the dude who first came up with the idea of running commercials ahead of the feature attraction in cinemas. I mean, that really stings, doesn't it?

Apple revolutionized the OS by throwing the whole thing out and building a new one from the ground up. But they minted a new generation of idiots, myself included. And it didn't end there. 10.1 added new networking features that I hadn't a clue how to use. 10.2 added new apps that I'd never used before, and with Panther, we were all confronted with a completely revamped Finder interface that, like a college roommate you despise the moment you meet, you just have to learn how to live with.

All this is especially troubling because at the moment, I've got iCal flipped to November of 2004. It doesn't look good. (I swear to God that I wrote that sentence without being consciously aware that I and my countrymen will be electing a President the first week of the month.)

I was actually thinking about all the commitments I've made that utterly rely on my still being a Macintosh expert in early winter. I'm speaking during a Mac-themed cruise around the Caribbean, I'm traveling to New Jersey to talk to a user group, and I've got a whole book about Panther that'll be in its fourth or fifth month of its published life by then.

I'm worried. It's entirely possible that Mac OS X 10.4 will have been released just a week earlier and that I'll have only a few days to master a revolutionary new OS that does away with the keyboard and the mouse in favour of a totally new interface built around a Bluetooth device that responds to varying flavours of Good Vibes emanating from the aura of the user.

I always dive into new releases with great gusto, but on the whole, I think it's vitally important that I buy a ukulele and spend the next several months learning how to play a batch of George Formby tunes. I've got to be prepared to be an authority on something when that boat leaves the dock, and the great thing about people who've been dead for 40 years is that they can't stab you in the back by coming up with new and contradictory ideas.

It's a big mess, but hey, that's just the price of innovation. Just today, I spent two hours in a hotel suite being given a secret briefing on everything that a major PDA maker would be shipping for the entire rest of the year. It was all good stuff, but this OS has been out for ten years now and it hasn't really changed one jot. PDA screens are now in colour and have much higher resolution than they did in 1994. So the OS looks a lot nicer. The text and the menus are much easier to read. These new PDAs can play MP3s, they can connect wirelessly to the Internet, they can take pictures. But did the company ever wonder what would happen if they started off with a blank slate and built a brand-new palmtop OS? Did they ever stop and objectively evaluate what they had, thinking very hard about what bits about the old GUI still made sense, which bits were still there out of simple intertia, and if there were any brand-new opportunities to make this OS simpler, faster, more flexible, and more functional?

So when you sign up to become a Mac user you're also signing up to be fitted for a brand-new Dunce cap every couple of years. But that's OK. New versions of Mac OS X are disorienting and occasionally even frustrating... but the alternative would be to remain the world's leading expert on an operating system that's perfectly attuned to the technologies and infrastructure available in 1987. MW

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